

# Seaweeds of the western coast of tropical Africa and adjacent islands: a critical assessment. IV. Rhodophyta (Florideae) 6. Genera [Q] R–Z, and an update of current names for non-geniculate Corallinales

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**SYNOPSIS.** This paper assembles and, so far as is possible without extended field and herbarium studies, examines critically the validity of records of marine and brackish-water Rhodophyta (Florideae) for the western coast of tropical Africa. The whole mainland coastline from the northern boundary of Western Sahara southwards to the southern boundary of Namibia, the oceanic islands from the Salvage Islands southwards to Ascension and St Helena, and all islands close to the African mainland coast are included in the area covered. Each species entry includes all traced records, the names which have previously been applied to it for the area, and additional comments or evaluation, as necessary. Comments are also provided at generic or generic group levels in very complex cases. All names used for non-geniculate Corallines in earlier papers in the series are updated.

## INTRODUCTION

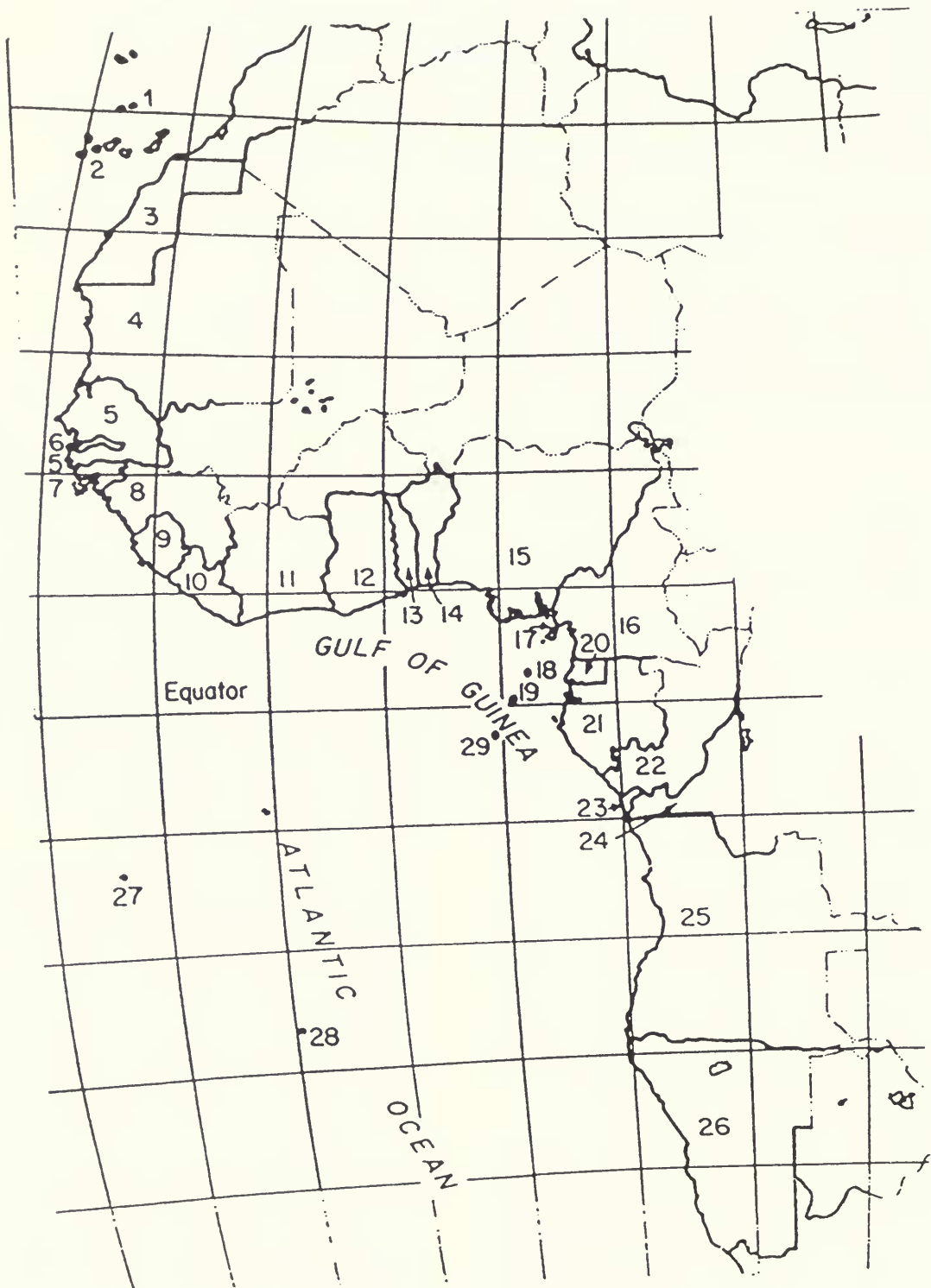
The area dealt with in this final part of the series is identical with that covered in earlier parts (Lawson & Price, 1969; Price et al., 1978, 1986, 1988, 1992; John et al., 1979, 1994; Lawson et al., 1995). Relevant country names employed and their earlier equivalents, and the names of island groups, are either listed in the legend or both listed and shown on the map in Fig. 1. Genera with the initial letters [Q]-[R]-Z and constituent species are listed alphabetically.

Each main entry in the first part of this paper consists of:

- (i) The major bold heading, representing the currently-accepted name and authorities.
- (ii) Subsidiary italicized headings. These are in square brackets and essentially subdivide the overall entry. They represent the different ways in which the species has been referred to in past publications for the area. Incorrect citations from past literature have been maintained in these subsidiary heads so that there shall be no doubt as to which record we attribute to which species or lower taxon level; only when clarification was required have changes been made in subhead citation, in which case an explanation is given in intermediary or terminal notes.
- (iii) The distributional data, with countries and island groups

arranged alphabetically. More generalized statements of distribution follow the specific country list. Complete distribution patterns require a scan of records under all names by which a species is known for this or adjacent areas. Hence, generalized distribution statements are included *verbatim* since it is not always clear for precisely which countries within the area they establish records. In all cases, numbers within parentheses after the names refer to corresponding numbers in the references. In the present reference list, for ease of readjustment from other parts, references have not been renumbered but simply omitted or added and additionally numbered appropriately. However, lists of references are only partially interchangeable between different parts of the overall list since some earlier parts had a different numbering system. Presentation of the references follows that from the previous part in having first a numerical sequence presenting only authors and dates, followed by separate listing of the full references in alphabetical order. Manuscript and expeditionary sources, as well as works currently in press are also included in the 'References'.

- (iv) Additional qualifying notes were required in many cases and may be found below whole entries or individual parts of entries to which they specifically refer. References in the notes are



cited by reference number when they contain species records and by author name, date of publication, and sometimes page numbers (after colon) when they do not.

Species nomenclature has been revised as far as possible and the complete author citation derived from Brummitt & Powell (1992) is given for each currently accepted combination. The subsidiary italicized headings and any other discarded combinations that require reference are included as cross-referencing entries to the currently accepted names in the overall list. The necessarily preliminary nature of all the treatments presented has been emphasized for each previously published part of the list and applies no less to this final contribution to the series. As indicated in previous parts, critical updating is kept firmly in mind for the whole work, although feasibility of that process will remain the final determinant at the appropriate time. We would appreciate notification of any detected errors and omissions in any of the parts.

## SPECIES LIST

**Reinboldiella poeppigiana** (Grunow) J. Feldmann & Feldmann-Mazoyer

See *Ceramium poeppigianum* Grunow.

Additional record: Cape Verde Islands (639).

**Rhabdonia decumbens** (Grunow) Grunow  
Canaries (37;70;71;131;375;493;598).

Cape Verde Islands (37;70;131;375;598).

[As *Meristotheca? decumbens* Grunow]

Canaries (439).

[As *Rhabdonia decumbens* Grunow]

Canaries (191;227;493).

*Note.* For discussion on names, see *Meristiella echinocarpa* (Areschoug) Cheney & Gabrielson for Cape Verde Island specimens. Prud'homme van Reine et al. (663) have re-investigated the Macaronesian algae studied by Piccone (see 439, 450, 451) and Askenasy (see 37, 38) and concluded that Askenasy had erroneously identified both *Meristiella echinocarpa* (from the Cape Verde Islands) and *Meristotheca? decumbens* (from Madeira, the Canaries and also the Cape Verde Islands) as *Mychodea schrammii*.

**Rhabdonia** sp.

See *Gigartina flagelliformis* (Sonder) Sonder.

**Rhodochorton** sp.

See *Audouinella*.

Additional record: Cape Verde Islands (652).

**Rhododiscus pulcherrimus** P. & H. Crouan

Canaries (232B;598).

*Note.* Noted by Prud'homme van Reine (598) as '= tetrasporophyte of *Atractophora hypnoides*' on basis on an abstract by Maggs et al. (1983) and a note by Irvine (273:35).

**Rhodomela episcopalis** Montagne

See *Halopitys incurvus* (Hudson) Batters.

**Rhodomela lycopodioides** (L.) C. Agardh

See *Fucus lycopodioides* Flor. Dan.

*Note.* On purely nomenclatural grounds the Bory (90) record for the Canaries would probably be attributable to *Rhodomela lycopodioides*. However, this is biogeographically extremely unlikely to be correct and the record may well represent a report of *Halopitys incurvus* (Hudson) Batters (q.v.).

**Rhodomela pinastroides** (Gmelin) C. Agardh

See *Halopitys incurvus* (Hudson) Batters.

**Rhodomela pinastroides** (Gmelin) C. Agardh var. **episcopalis** Montagne

See *Halopitys incurvus* (Hudson) Batters.

**Rhodophyllis bifida** (Goodenough & Woodward) Kützing

See *Rhodophyllis divaricata* (Stackhouse) Papenfuss.

**Rhodophyllis capensis** Kützing

See *Rhodophyllis reptans* (Suhr) Papenfuss.

**Rhodophyllis divaricata** (Stackhouse) Papenfuss

Canaries (18;380;633;745;747).

Mauritanie (624).

[As *Rhodophyllis bifida* (Goodenough & Woodward) Kützing]

Canaries (598).

'Nordwestafrika' (499).

**Rhodophyllis gracilarioides** M. Howe & W.R. Taylor

Ghana (290;292;299;350;376;377;586).

Sénégal (59;722).

'in tropical parts of the Atlantic Ocean.' (350;586).

'Tropical Africa (N. Gambia – Congo River)' (598).

*Note.* Bodard & Mollion (59) indicated that this alga is known otherwise only from Brazil, a comment clearly now outdated.

**Rhodophyllis reptans** (Suhr) Papenfuss

Namibia (36B;707).

[As *Rhodophyllis capensis* Kützing]

Namibia (500).

**Rhodophysema africana** D.M. John & G.W. Lawson

Angola (217;294;352;532;586).

Gabon (217;294;350;532;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Rhodophysema* sp.]

Angola (352).

**Fig. 1** The coastline of tropical West Africa and the offshore islands.

1, Salvage Islands; 2, Canary Islands; 3, Western Sahara [=former Spanish Sahara, Spanish West Africa] (includes the often quoted Rio de Oro, the southern region of the country, but excludes Ifni); 4, Mauritanie; 5, Sénégal; 6, Gambia; 7, Guinea-Bissau [=Portuguese Guinea]; 8, Guinée; 9, Sierra Leone; 10, Liberia; 11, Côte d'Ivoire; 12, Ghana; 13, Togo; 14, Benin [=Dahomey]; 15, Nigeria; 16, Cameroun; 17,\* Bioko [=Macias Nguema Biyogo, Fernando Pó]; 18, Príncipe; 19, São Tomé; 20,\* Equatorial Guinea [=Spanish Guinea]; 21, Gabon; 22,\*\* Republic of the Congo; 23, Cabinda; 24, Zaire [=Congo Republic]; 25, Angola; 26, Namibia [=South West Africa]; 27, Ascension Island; 28, St Helena; 29, Annobon [Pagalú]. The Cape Verde Islands, which lie immediately to the west of Dakar (Sénégal), have been omitted from this map but are included in the species list that follows.

\*Nos 17 (Bioko) and 20 (Spanish Guinea, = Rio Muni) are now jointly administered as Equatorial Guinea. Bioko is entered separately, where appropriate, in the species list.

\*\*Loango, a name much used by earlier collectors such as Welwitsch, was formerly a coastal region of West Africa. Its application appears to have included much of the coastline of the Republic of the Congo (22), as well as of Cabinda (23) and Zaire (24). Because by far the longest and rockiest part of the Loango coast lies now within the Republic of the Congo we have attributed all marine algal records from Loango to the Congo.

*Note.* This species closely resembles *Rhodophysemia elegans* (P. & H. Crouan ex J. Agardh) Dixon: see John & Lawson (294). For further information on the genus see South & Whittick (532) and Masuda & Ohta (1981).

**Rhodothamniella codii** (Crouan) J. Feldmann  
See *Audouinella codii* (P. & H. Crouan) Garbary.

**Rhodymenia ardissoni** J. Feldmann  
Canaries (634;635;648).

**Rhodymenia caespitosa** P.A. Dangeard  
Canaries (635).

**Rhodymenia capensis** J. Agardh  
See *Epymenia capensis* (J. Agardh) Papenfuss.

**Rhodymenia corallicola** Ardissoni  
See *Rhodymenia ligulata* Zanardini.

**Rhodymenia holmesii** Ardissoni  
Angola (unpublished).  
Canaries (663).

*Note.* Many plants under this name from Angola appear to correspond rather closely to *Rhodymenia pseudopalmetta* var. *pseudopalmetta* [= *R. pseudopalmetata*], but a few with narrow fronds often tapering towards the rounded apices have sufficient development of apparent 'stolons' as processes from the frond to show strong resemblance to plants previously known as *R. pseudopalmetta* var. *ellisiae* (Duby) Guiry. This latter taxon is now placed in synonymy with *R. holmesii* Ardissoni. Prud'homme van Reine et al. (663) re-examined Piccone's specimens of *R. palmetta* (Esper) Greville and renamed some of them as *R. holmesii*, pointing out that this species was a new record for Macaronesia. In all probability, records for Namibia and Ascension given under *Schottera nicaeensis* (J.V. Lamouroux ex Duby) Guiry & Hollenberg should also be attributed here.

**Rhodymenia ligulata** Zanardini  
'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).  
[As *Rhodymenia corallicola* Ardissoni]  
Mauritania (269;349;516).

**Rhodymenia linearis** J. Agardh  
Namibia (36B;707).

*Note.* Wynne (36B) suggested that the general habit of this alga was similar to *Epymenia capensis* (J. Agardh) Papenfuss, save that the tetrasporangia did not occur in special proliferations but rather in rounded sori near the apices of frond segments. Stegenga et al. (707: 363-364), however, regard the differences between this alga and *Rhodymenia natalensis* as insignificant and have included all material in the latter species.

**Rhodymenia multipartita** (Clemente) Montagne  
See *Gracilaria multipartita* (Clemente) Harvey.

**Rhodymenia natalensis** Kylin  
Namibia (36B).  
'Southern Africa' (707).

*Note.* Wynne (36B) expressed some reservations in assigning material to this species, due to the colder water conditions in Namibia compared to those of the eastern African coastline. Thalli are broader, with a more fan-shaped aspect, with larger tetrasporangia, and without the basal stoloniferous growths found in *Rhodymenia pseudopalmetta*, which *R. natalensis* otherwise resembles.

**Rhodymenia palmata** (L.) Greville  
Canaries (401).  
'... Atlantischen Ocean (Skandinavien bis zu dem Kanaren . . .)' (37).  
'Coast of the Gulf of Guinea' (269).  
'... from the Canary Islands and Mediterranean Sea to the coasts of Norway and Ireland.' (268).  
[As *Rhodymenia palmata* Greville]

Canaries (44).  
[As ?*Halymenia claviformis* Suhr]  
Canaries (401).  
[As *Rhodymenia palmata* (Esper) Greville]  
Canaries (375).

*Note.* Montagne (401) commented that the Canarian material was a single juvenile individual sent by Despreaux to Webb under the name *Delesseria lactuca*. Børgesen (70) believed Montagne's record was a case of mistaken identification for *Rhodymenia palmata*. Possibly all these records relate to *Palmaria palmata* (L.) Kuntze but there are reservations. See the earlier note to *P. palmata*.

**Rhodymenia palmetta** (Esper) auct.  
See *Rhodymenia pseudopalmetata* (J.V. Lamouroux) P.C. Silva.

**Rhodymenia pseudopalmetata** (J.V. Lamouroux) P.C. Silva  
Angola (273;352).  
Canaries (13;38B;38D;108;225;226;227;229;232B;273;306B;379;490;546;633;634;635;662;663;684;685;747).  
Cape Verde Islands (38B;38D).  
Gabon (294?;350?;586?).  
Ghana (299;350;376;377;586;695).  
Mauritanie (38B;38D;349;624).  
Salvage Islands (38B;38D).  
Sénégal (38B;38D;55;56;57;59;399;654;722).  
Sierra Leone (295;350;586).  
Western Sahara (38B;38D;349).  
'... Afrique noire . . .' (59).  
'... Atlantique (de l'Angleterre aux Canaries) . . .' (33).  
'... in warm temperate and tropical seas.' (350;586).  
'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).  
'Tropical Africa (N. Gambia - Congo river)' (598).  
'... O. Atlántico (desde I. Británicas hasta Canarias) . . .' (747).  
[As *Rhodymenia pseudopalmetta* (J.V. Lamouroux) P.C. Silva var.]  
Sénégal (59).  
[As *Rhodymenia palmetta* Esper]  
Cape Verde Islands (145).  
[As *Rhodymenia palmetta* (Esper) Greville]  
Canaries (70;191;252;375;390;439 pro parte;499;547;663).  
Cape Verde Islands (38;252;411;499).  
Ghana (153;338;537).  
Mauritanie (252).  
Sénégal (123).  
'From the English Coast to the Canary Islands . . .' (70).  
'Nordwestafrika' (499).  
'Westafrika' (499).

*Note.* Some specimens recorded in 439 are *Rhodymenia holmesii* (see 663).

[As *Rhodymenia palmetta* Greville]  
Angola (42).  
Guinea-Bissau (529).  
[As *Rhodymenia palmetta* J. Agardh]  
Angola (41).  
[As *Rhodymenia palmetta* Greville var. *fusco-purpurea* P.A. Dangeard]  
Sénégal (49;59;122;182).  
[As *Rhodymenia palmetta* Greville var.]  
Canaries (439).  
[As *Rhodymenia palmetta*]  
Sénégal (411).

*Note.* Irvine (273) commented: 'British Isles to at least Morocco; Azores; Canary Isles; Mediterranean and South African records doubtful. Records from elsewhere apply to other species of *Rhodymenia*'. Lawson & John (350;586) noted: 'Many plants from the region appear to correspond closely

with variety *pseudopalmeta*, but a few of those with narrow fronds often tapering towards the rounded apices show some resemblance to *R. holmesii* Ardissonne (= *R. pseudopalmeta* variety *elisiae* (Duby) Guiry in Guiry & Hollenberg).

The record from Gabon (294,350,586) is doubtful because the specimens were sterile.

**Rhodymenia pseudopalmeta** (all varieties)

See *Rhodymenia pseudopalmeta* (J.V. Lamouroux) P.C. Silva and *Rhodymenia holmesii* Ardissonne.

**Rhodymenia** sp.

Canaries (633).

Guinée (529).

Namibia (312A;348).

**Ricardia montagnei** Derbès & Solier

See *Erythrocytis montagnei* (Derbès & Solier) P.C. Silva.

**Rissoella verruculosa** (Bertolini) J. Agardh

Canaries (646).

**Rytiphlaea episcopalia** (Montagne) Endlicher

See *Halopitys incurvus* (Hudson) Batters.

**Rytiphlaea fruticulosa** Harvey

See *Polysiphonia fruticulosa* (Wulfen) Sprengel.

**Rytiphlaea [Rytiphloea] pinastroides** auct.

See *Halopitys incurvus* (Hudson) Batters.

**Rytiphlaea tinctoria** (Clemente) J. Agardh

[As *Rytiphlaea tinctoria* (Clemente) C. Agardh]

Canaries (16;26;38B;38D;71;89;128A;133;191;226;227;232B;302;304;306B;375;392;401;439;489;517;556;584;598;634;635;648;662;663;684;717;747).

Mauritanie (38B;38D;349;516;556;624).

Salvage Islands (38B;38D;375;556;598).

Western Sahara (38B;38D).

'... African coasts, Canary Islands ...' (177).

'... Atlantique meridional (de Brest et du sud de la Loire a la Mauritanie) ...' (222).

'... Atlantique (de Brest aux Canaries) ...' (190).

'... Atlantique (depuis Brest aux Mauritanie)' ... (33).

'... Atlantico desde Brest a Canarias' (517).

'... de Brest aux Canaries ...' (89).

'From Brest to the Canary Islands ...' (71).

'Atlantic between the Canaries and the British Isles' (668).

'... l'ocean Atlantique ... de Brest aux Canaries ...' (517).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

[As *Rytiphloea tinctoria*]

Canaries (237).

[As *Rytiphloea tinctoria*]

Canaries (237).

[As *Rytiphloea tinctoria*]

Canaries (237).

[As *Rytiphloea tinctoria* (Clemente) C. Agardh]

Canaries (229).

[As *Rytiphloea tinctoria* C. Agardh]

Canaries (547).

[As *Rytiphloea tinctoria* (Clemente) J. Agardh]

Canaries (663).

[As *Rytiphloea tinctoria* (Clemente) C. Agardh]

Canaries (21).

[As *Rytiphloea tinctoria* (Clemente) C. Agardh]

Canaries (229).

[As *Rytiphloea tinctoria* (Clemente) C. Agardh]

Canaries (229).

[As *Rytiphloea tinctoria* (Clemente) C. Agardh]

Canaries (13;177).

Salvage Islands (231).

'... Atlantic Ocean (... African coasts ...)' (177).

[As *Rytiphloea tinctoria* C. Agardh]

Canaries (44).

**Sarcodia ceylanica** Harvey ex Kützing

[As *Sarcodia ceylanica* Harvey]

Sénégal (122;411).

*Note.* Various authors, including Silva et al. (1987) and Silva et al. (746), consider this variable alga to be equivalent to *Sarcodia montagneana* (J. Hooker & Harvey) J. Agardh.

**Sarcomenia intermedia** Grunow

Cape Verde Islands (38;191).

'... assez communes aux îles du Cap Vert' (38).

*Note.* Correct name is *Platysiphonia intermedia* (Grunow) Wynne. For nomenclature, see Silva et al. (746).

**Sarcomenia miniata** (C. Agardh) J. Agardh [or C. Agardh]

See *Platysiphonia delicatula* (Clemente) Cremades.

**Sarcoditheca divaricata** W.R. Taylor

Canaries (664).

**Schimmelmannia bollei** Montagne

Canaries (227;410;502).

Cape Verde Islands (27;38;70;134;191;390;408;500;502;598;625).

*Note.* Børgesen (70), in explaining the citation of 'Cape Verde' instead of 'Canary' Islands stated: '*Schimmelmannia Bollei* Mont. is in Engler and Prantl, Natürl. Pflanzenfam. 1, 2, 1897, p. 507, said to occur "in den Gewässern der canarischen Inseln". Dr. O.C. Schmidt, Bot... Mus..., Dahlem bei Berlin, ... informed me that all the specimens found in the Museum originate from the Cape Verde Islands.'

Gil-Rodríguez & Afonso-Carrillo (227) indicated that Børgesen (71) had stated the Canaries record to be erroneous, so they listed the record but excluded the species from their catalogue as they believed it to be absent.

De Toni (134: 1527), commenting on the Bolle collections from St. Nicolas (C.V.I.), stated: 'Species tantum sterilis hucusque reperta, ita ut de affinitate vix dijudicare liceat; quoad structuram haec potius ad *S. frauenfeldii* quam ad *S. ornatum* adpropinquare videtur'.

**Schimmelmannia ornata** Schousboe

Canaries (389).

*Note.* This record probably represents the species referred to for the area as *S. bollei* Montagne.

**Schizymenia dubyi** (Chauvin ex Duby) J. Agardh

'... Atlantischer Ozean, von den englischen bis an die nordwestafrikanischen Küsten ...' (498;499).

*Note.* The southern limit of this species appears to be Morocco (34;118), but since Schmidt did not define what he meant by North West Africa it is just possible that he was including Western Sahara and/or Mauritanie. Tetrasporic phase is *Haematocelis rubens* J. Agardh (33;34).

**Schizymenia obovata** (J. Agardh) J. Agardh

Namibia (36B;348).

*Note.* Seagrief (570) gave *Platymenia undulata* var. *obovata* J. Agardh in synonymy, but Silva et al. (746) suggest *Schizymenia apoda* (J. Agardh) J. Agardh to be the correct name.

**Schmitziella endophloea** Bornet & Batters

Canaries (9;227;582;584).

*Note.* After studies of relevant type material, Woelkerling & Irvine (1982) concluded that *Schmitziella*, typified by *S. endophloea*, did not belong in the Corallinaceae and placed it next to the Acrochaetiaceae as a genus *incertae sedis*. Subsequently Poeschel (1989: 634), from studies of pit-plug structure and mode of tetrasporangial cleavage, considered that *Schmitziella* may

belong in the Gigartinales rather than the Corallinales or Acrochaetiales. The taxonomic affinities of *Schmitziella* hence require further investigation. Woelkerling (730) provides information on material of this species in the Thuret-Bornet herbarium in PC.

**Schmitziella** sp.

Cape Verde Islands (366).

*Note.* The specimens upon which this record is based need examination in detail to determine their taxonomic disposition.

**Schottera nicaensis** (J.V. Lamouroux ex Duby) Guiry & Hollenberg  
Namibia (36B).

[As *Phyllophora palmettooides* var. *Nicaensis* J. Agardh]

Ascension (37).

*Note.* According to Irvine (273: 94 et seq.) this should be included under *Rhodomenia holmesii*.

**Scinaia**

For a detailed revisionary treatment of the *Scinaia*-assemblage, see 271A.

**Scinaia australis** (Setchell) Huisman

Canaries (724).

**Scinaia canaliculata** J. Feldmann

Sénégal (48;55;59;722).

'... l'aire se limite au golfe du Bénin et à la Mauritanie ...' (59).  
'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

*Note.* Bodard & Mollion (59: 214) referred to this species as 'Feldmann mser', stating (p. 198) '...n'est pas décrit...'

**Scinaia (Pseudogloiophlea) capensis**

*Note.* See earlier entry for *Ginnania furcellata* Montagne.

**Scinaia caribaea** (W.R. Taylor) Huisman

Canaries (633;634;724).

*Note.* See Reyes et al. (724: 57) regarding the possibility that this record may represent *Scinaia halliae* (Setchell) Huisman.

**Scinaia complanata** (Collins) Cotton

Canaries (17;128A;598;635;648;662;724).

Salvage Islands (38B;38D;598).

Sénégal (48).

[As *Scinaia complanata* (f. *typus*)].

Sénégal (182).

**Scinaia cottonii** Setchell

Ghana (350;586).

Sénégal (722).

'... in warm temperate and tropical parts of the Atlantic and Pacific Oceans.' (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

**Scinaia forcillata** Bivona-Bernardi

See *Scinaia furcellata* (Turner) J. Agardh.

**Scinaia furcellata** (Turner) J. Agardh

[As *Scinaia forcillata* Bivona-Bernardi]

Canaries (13;89;172;227;232B;271A;547;598).

Cape Verde Islands (38).

Salvage Islands (598).

Sénégal (38).

[As *Scinaia furcellata* (Turner) Bivona-Bernardi]

Sénégal (722).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

[As *Scinaia furcellata* (Turner) Bivona]

Annobon (Pagalú) (350;456;586).

Canaries (2;38B;38D;39;68;117;118;128A;191;375;392;489;499;517;547;584).

Congo (249;250;350;586).

Salvage Islands (38B;38D).

Sénégal (38B;38D;48;55;59).

'Atlántico de Gran Bretaña a Canarias' (517).

'... Atlantique (de la Novège aux Canaries) ...' (33).

'From Great Britain down to the Canary Islands' (68).

'... largement répandue dans tout l'Atlantique boréal et dans les eaux tropicales' (59).

'Nordwestafrika', 'Westafrika' (499).

[As *Ginnania furcellata* (C. Agardh) Montagne = *Halymenia furcellata* Agardh]

Canaries (402).

[As *Scinaia furcellata* (Turner) Bivona var. *constricta* Pilger]

Annobon (Pagalú) (139;456;457;496).

[As *Ginnania furcellata* Montagne]

Canaries (401).

'... in mari atlantico ... ad oras ... Africae meridionalis ...' (318).

[As *Ginnania furcellata* (Turner)]

Sénégal (408).

[As *Scinaia pseudocrispa* (Clemente) Wynne]

Canaries (724)

*Note.* Nomenclature of this species has often been discussed. Dixon & Irvine (1970) were of the opinion that the epithets of *Scinaia forcillata* Bivona-Bernardi (1822: 232) and *S. furcellata* (Turner) J. Agardh (1851: 422) are orthographic variants and adopted *S. furcellata* as the correct name. However, according to Silva et al. (746) the two epithets have to be considered as distinct, with the result that the correct name is *S. furcellata*. The combination *Scinaia pseudocrispa* (Clemente) Wynne is therefore superfluous.

**Scinaia halliae** (Setchell) Huisman

See *Scinaia caribaea* (W.R. Taylor) Huisman.

**Scinaia hormoides** Setchell

Ghana (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

'... widespread in tropical seas ...' (350;586).

**Scinaia (?)johnstoniae** Setchell

Gabon (294;350;586).

Ghana (350).

Sénégal (722).

'... in warm temperate and tropical parts of the Atlantic and Pacific Oceans' (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

*Note.* It is possible that the Ghanaian plants may represent more than one entity (see 586).

**Scinaia pseudocrispa** (Clemente) Huisman or Wynne

See *Scinaia furcellata* (Turner) J. Agardh.

**Scinaia verae** (C.I. Dickinson) Huisman

Ghana (586).

'... in tropical parts of the eastern Atlantic Ocean' (586).

[As *Pseudogloiophloea verae* (C.I. Dickinson) Papenfuss]

Ghana (350;434;718).

'... in tropical parts of the eastern Atlantic Ocean' (350).

'Tropical Africa (N. Gambia – Congo river)' (598).

*Note.* 598 recorded this taxon with '?'.  
[As *Gloiophloea verae* C.I. Dickinson]

Ghana (154;338;434)

**Scinaia** spp.

Canaries (721).

Ghana (299;300;376;491).

Sénégal (59;182;399).

**Sebdenia canariensis** Soler-Onís, Haroun, Viera-Rodríguez & Prud'homme van Reine  
See *Sebdenia macaronesica* Soler-Onís.

**Sebdenia dichotoma** (J. Agardh) Berthold  
Canaries (105;598;714;748).  
[As *Sebdenia feldmannii*]  
Canaries (584).

*Note.* Boudouresque et al. (1984) list this taxon as *Sebdenia feldmannii* Codomier (= *Halymenia dichotoma* (J. Agardh) J. Agardh, = *Sebdenia dichotoma* Berthold). For an explanation of this, see Codomier (714). See *Halymenia* [*Chrysymenia*] *dichotoma*.

**Sebdenia feldmannii** Codomier  
See *Sebdenia dichotoma* (J. Agardh) Berthold.

**Sebdenia macaronesica** Soler-Onís  
Canaries (748).  
Cape Verde Islands (748).  
[As *Sebdenia canariensis* Soler-Onís]  
Canaries (749).

**Sebdenia rodrigueziana** (J. Feldmann) Codomier  
Canaries (748).  
Cape Verde Islands (748).

**Seirospora interrupta** (J.E. Smith) Schmitz  
Canaries (699).

**Solieria chordalis** (C. Agardh) J. Agardh  
See *Solieria filiformis* (Kützing) Gabrielson.

**Solieria filiformis** (Kützing) Gabrielson  
Cape Verde Islands (713).  
Gabon (586).  
Ghana (586;654).  
Sénégal (722).

'... in warm temperate and tropical parts of the Atlantic Ocean.'  
(586).

[As *Solieria chordalis* (C. Agardh) J. Agardh]  
Mauritanie (349?;516?).  
Sénégal (408).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

[As *Solieria chordalis* J. Agardh]  
Sénégal (38).

[As *Solieria tenera* (J. Agardh) Wynne & W.R. Taylor]  
Gabon (294;350).

Ghana (187;290;299;300;350;366;376;377;491;732).  
Mauritanie (187;349;366;624;732).

Sénégal (187;366;732).

'... in warm temperate and tropical parts of the Atlantic Ocean'  
(350).

'North west Africa' (565A).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

'West Africa' (562).

'... tropical West Africa ...' (712).

[As *Agardhiella tenera* (J. Agardh) Schmitz]  
Cape Verde Islands (477).

Ghana (153).

Mauritanie (192;252).

Sénégal (49;59;182).

*Note.* All records of *Solieria chordalis* from tropical West Africa are considered doubtful. On the complexities of nomenclatural interpretation, see Silva et al. (746).

**Spermothamnion capitatum** (Schousboe) Bornet  
See *Tiffaniella capitata* (Bornet) Doty & Meñez.

**Spermothamnion flabellatum** Bornet  
Canaries (646).

**Spermothamnion gorgoneum** (Montagne) Bornet  
See *Tiffaniella gorgonea* (Montagne) Doty & Meñez.

**Spermothamnion investiens** (P. & H. Crouan ex Schramm & Mazé) Vickers

Cameroun (350?;586?).

Gabon (294;350;586).

Ghana (350?;377;586?).

Mauritanie (624?).

Sénégal (55;59;722).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Spermothamnion* sp.]

Ghana (376).

*Note.* The plants from Cameroun and Ghana were sterile and determination is doubtful.

**Spermothamnion macromeres** Collins & Hervey  
Mauritanie (624).

**Spermothamnion repens** (Dillwyn) Rosenvinge  
Canaries (5;16;71;191;227;235;306B;490;598).  
Mauritanie (624?).

'... Atlantique (de la Norvège aux Canaries ...)' (33).

'... Atlantique nord, de la Scandinavie aux Canaries ...' (190).

'... coast of Europe southwards to the Canary Islands' (71).

'... N. Atlantic from Scandinavia to Canaries' (97).

'W. Norway to Canaries' (711).

[As *Spermothamnion repens* var. *flagelliferum* De Notaris]

'... Atlantique de la Scandinavie aux Canaries ...' (189).

[As *Spermothamnion repens* (Dillwyn) Rosenvinge var. *turneri* (Mertens)]  
Canaries (71).

[As *Spermothamnion repens* var. *turneri* (Mertens) Rosenvinge]

'... Atlantique de la Scandinavie aux Canaries ...' (189).

[As *Spermothamnion repens* var. *variable*]

Canaries (584).

'... Atlantique de la Scandinavie aux Canaries ...' (189).

[As *Spermothamnion repens* var. *variable* (C. Agardh) J. Feldmann]

'... N. Atlantic from Scandinavia to Canaries ...' (97).

[As *Callithamnion repens* (Dillwyn) Lyngbye]

Canaries (401).

[As *Spermothamnion turneri* Areschoug]

Canaries (71;547).

[As *Spermothamnion turneri* (Mertens) Areschoug]

Canaries (133;239;499).

'... in oceano Atlantico ab Helgolandia usque ad Gades Hispaniae et ad Canarias insulas ...' (133).

'... nordlicher Atlantischer Ozean bis zu den Kanaren' (499).

'Nördwestafrika' (499).

**Spermothamnion speluncarum** (Collins & Hervey) M. Howe  
Canaries (13;71;191;227;598).

Ghana (350;586).

'... élément Atlantique-tropical' (191).

'... in warm temperate and tropical parts of the Atlantic Ocean ...'  
(350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

**Spermothamnion turneri** Areschoug

See *Spermothamnion repens* (Dillwyn) Rosenvinge.

**Spermothamnion** sp.

Angola (352).

Canaries (235;489).

Ghana (299;350;376;377;491;586).

Mauritania (624).

St Helena (644).

*Note.* There may be other representatives of the genus in Sierra Leone (295;350;586) different from those reported by Lieberman et al. (376) from Ghana (cf. *Spermothamnion investiens*). All specimens found have been sterile so that positive identification, even to genus, has not been possible.

**Sphaerococcus acicularis** (Wulfen) C. Agardh

See *Gigartina acicularis* (Roth) J.V. Lamouroux.

**Sphaerococcus cartilagineus** (L.) C. Agardh

See *Gelidium cartilagineum* (L.) Gaillon.

**Sphaerococcus confervoides** (L.) C. Agardh

and var.  $\beta$  **procerrimus** (Esper) Turner

See *Gracilaria verrucosa* (Hudson) Papenfuss (now *Gracilariopsis longissima* (Gmelin) Steentoft, L.M. Irvine & Farnham).

**Sphaerococcus corneus** (Hudson) C. Agardh

See *Gelidium corneum* sensu Børgesen.

**Sphaerococcus coronopifolius** (Goodenough & Woodward) C. Agardh

Canaries (70;71;140;184;191;207;439;499;517;584;598;635;663;698).

'... Atlantico (de Gran Bretaña a Canarias) . . .' (517).

'Du nord de la Grande-Bretagne aux Canaries . . .' (89).

'From Great Britain down to the Canary Islands . . .' (70).

[As *Sphaerococcus coronopifolius* Agardh]

Canaries (439).

[As *Sphaerococcus coronopifolius* C. Agardh f. *gracilior*]

Canaries (547).

[As *Sphaerococcus coronopifolius* (Goodenough & Woodward) Greville]

'... in den wärmeren Teilen des atlantischen Oceans . . .' (502).

[As *Sphaerococcus coronopifolium* (Goodenough & Woodward) Stackhouse]

Canaries (392;407).

[As *Gelidium coronopifolius* (Goodenough & Woodward) Lamouroux]

Canaries (44;71;401).

[As *Sphaerococcus coronopifolius* Stackhouse]

Canaries (227;375).

'... British Isles to the Canary Isles . . .' (172).

*Note.* The tetrasporophyte is *Haematocelis* [*Ethelia*] *fissurata* P. & H. Crouan (719).

**Sphaerococcus intricatus** C. Agardh

See the entries for *Gelidiopsis intricata* (C. Agardh) Vickers and *Gelidiopsis variabilis* (J. Agardh) Schmitz, especially the note to the latter (Price et al., 1988).

**Sphaerococcus norvegicus** (Gunnerus) C. Agardh

See *Gymnogongrus crenulatus* (Turner) J. Agardh.

**Sphaerococcus oligacanthus** Kützing

See *Gracilaria dentata* J. Agardh.

**Sphaerococcus rangiferinus** Kützing

See *Gracilaria dentata* J. Agardh.

*Note.* This name has been replaced by *Gracilaria rangifera* (Kützing) Piccone, according to Silva et al. (746).

**Spondylothamnion multifidum** (Hudson) Nägeli

Canaries (17;71;128A;133;191;227;232B;240;306B;390;584;598;635).

'... Atlantique (de l'Angleterre aux Canaries) . . .' (33).

'... Atlantique nord, de l'Ecosse aux Canaries . . .' (190;196).

'British Isles to Canaries.' (711).

'... nell'Atlantico si estende della Gran Bretagna al Marocco, toccando le Canarie . . .' (390).

'... English coast southwards to the Canary Islands . . .' (71).

'... NE. Atlantic . . . , including the Canaries . . .' (668).

[As *Sphondylothamnion multifidum* Nägeli]

Canaries (547).

**Spongites**

The concept of *Spongites* adopted in this paper is that of Penrose (1996b). Keys showing the relationships of *Spongites* to other genera of the subfamily Mastophoroideae (to which *Spongites* belongs) are provided by Penrose & Chamberlain (1993) and by Woelkerling (1996b), while Woelkerling (1985) gives an account of the original collections upon which Kützing (1841) based the genus and the six species he assigned to it. *Paragoniolithon* Adey et al. (1982: 12), based on *P. solubile* (Foslie & Howe) Adey, Townsend & Boykins (Basionym: *Goniolithon solubile* Foslie & Howe) is a heterotypic synonym of *Neogoniolithon* (see Woelkerling, 1988: 141).

**Spongites absimile** (Foslie & M. Howe) Afonso-Carrillo

Canaries (733).

[*Lithophyllum absimile* Foslie]

Cape Verde Islands (?365).

'Golfe de Guinée' (?366).

*Note.* Uncertainties surround the generic disposition of the type and of certain records of this taxon from tropical West Africa and adjacent islands.

The species was originally described as *Lithophyllum absimile* Foslie & M. Howe in Foslie (207: 7) based on material from Jamaica and was subsequently transferred to *Pseudolithophyllum* by Adey (1970: 12) and then to *Spongites* by Afonso-Carrillo (733: 98). As noted by Afonso-Carrillo (733: 97), the combination *Neogoniolithon absimile* (e.g., see Notoya, 1976a: 137, 1976b: 314; Cabioch, 1972: 272; Gil-Rodríguez & Afonso-Carrillo, 227: 36; South & Tittley, 1986: 44) has not been validated in accordance with ICBN Art. 33.2 (see Greuter, 1994); see under *Spongites wildpretii*. Afonso-Carrillo (733: 91-93, figs 1-6) provided an account of holotype material in TRH (see also Woelkerling, 678: 14), but noted (p. 97) that placement in *Spongites* was attended by some uncertainty since only senescent conceptacles were observed. Data on the vegetative thallus of the type provided by Afonso-Carrillo (733) suggest that the species most likely belongs to the Corallinaceae, subfamily Mastophoroideae (see Woelkerling, 1988: 115, 1996b: 237), but the absence of data on tetrasporangial conceptacle anatomy from the type precludes certain generic placement within the subfamily. Afonso-Carrillo (733) also concluded that Canary Island specimens referred to *absimile* by Lemoine (362) as well as plants deposited at TFC (Departamento de Botánica, Universidad de La Laguna, Canary Islands) [upon which some other records (Gil-Rodríguez & Afonso-Carrillo, 227: 36; Afonso-Carrillo, 576: 139; Afonso-Carrillo et al., 582: 30) presumably were based] did not belong to *Spongites absimile* but rather to *S. wildpretii* (see below).

Records of *Lithophyllum absimile* from the Cape Verde Islands (Lemoine, 365: 1071) and from the 'Golfe de Guinée' (Lemoine, 366) require verification from examination of relevant voucher material.

**Spongites africanum** (Foslie) Afonso-Carrillo, Chacana & Sansón

Cape Verde Islands (726).

Sénégal (726).

[As *Lithophyllum africanum* Foslie]

Annobon (Pagalú) (397;455;457;500;535).

Bioko (500).

Canaries (353;366;537).



Cape Verde Islands (6;100;353;365;366;455;535).

Mauritanie (359;366).

São Tomé (6;455;535).

Sénégal (198;212;535).

'... Golfe de Guinée ...' (366).

[As *Lithophyllum africanum* Foslie f. *intermedia* Foslie]

Sénégal (199;211;212;678;730).

*Note.* Status and disposition uncertain; holotype from Cap Vert, Sénégal in TRH (Woelkerling, 730) and isotype material in PC (Woelkerling, 730) not studied in detail in a modern context; placement under *Spongites africanum* in this paper does not imply synonymy with the type of the species.

[As *Lithophyllum africanum* Foslie f. *truncata* Foslie]

São Tomé (211;212;535).

Sénégal (198;212).

*Note.* Status and disposition uncertain; holotype from Cap Vert, Sénégal in TRH (Woelkerling, 730) not studied in detail in a modern context; placement under *Spongites africanum* in this paper does not imply synonymy with the type of the species.

[As *Lithophyllum* (cf.) *africanum*]

Cape Verde Islands (598).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

[As *Lithothamnion ponderosum* Foslie]

São Tomé (134?;197;265).

[As *Lithothamnion proboscideum* Foslie]

São Tomé (197).

[As *Porolithon africanum* (Foslie) Foslie]

Annobon (Pagalú) (139).

Bioko (350;586).

Cameroun (350;586).

Cape Verde Islands (598).

Mauritanie (349).

São Tomé (211;350;586).

'... in warm temperate and tropical parts of the eastern Atlantic Ocean ...' (350;586).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

*Note.* Based on examinations of the lectotype from Cap Vert, Sénégal (see Woelkerling, 678: 23-24) and specimens from the Cape Verde Islands, Afonso-Carrillo, Chacana & Sanson (726) transferred *Lithophyllum africanum* Foslie (199: 3) to *Spongites* as delimited by Penrose & Woelkerling (1988) and Woelkerling (1988). This concept of *Spongites* encompassed the genus *Hydrolithon* Foslie. Based on further studies, however, Penrose & Woelkerling (1992) concluded that *Spongites* and *Hydrolithon* should be treated as distinct genera based on differences in tetrasporangial conceptacle anatomy (see also Penrose & Chamberlain, 1993; Penrose, 1996a; Woelkerling, 1996b). Afonso-Carrillo (pers. comm.) suggested that the species probably belongs to *Hydrolithon* as delimited by Penrose, but formal transfer has not been effected. All specimens upon which published records of *Spongites africanum* and its homotypic synonyms from the West African region are based need to be checked to determine their status and disposition. This also applies to the types and other records (listed above) of *Lithophyllum africanum* f. *intermedium* and *L. africanum* f. *truncatum*, established concurrently with *L. africanum* by Foslie (199: 3). The types of both *Lithophyllum africanum* f. *intermedium* (see Woelkerling, 678: 127; 730.) and *L. africanum* f. *truncatum* (see Woelkerling, 678: 226) also come from Cap Vert, Sénégal.

The record under the name *Lithothamnion proboscideum* from São Tomé (Foslie, 197: 14) pertains to material Foslie (199: 3) subsequently referred to *Spongites africanum* (as *Lithophyllum*). Information relating to material identified as *Lithothamnion ponderosum* Foslie has been presented previously (John et al., 1994: 68).

### **Spongites fruticosus** Kützing

[As *Lithothamnion fruticosum* (Kützing) Foslie]

Canaries (6).

Cape Verde Islands (210;366;598).

Mauritanie (349;356;359;360;366).

Sénégal (6;366).

[As *Lithothamnion fruticosum* (Kützing) Foslie f. *crassiuscula*]

Cape Verde Islands (210).

*Note.* Status and disposition uncertain; TRH neotype (Woelkerling, 678: 66) from Brionic Islands, Adriatic Sea not studied in detail in a modern context; placement under *Spongites fruticosus* in this paper does not imply synonymy with the type of the species.

[As *Lithothamnion fruticosum* (Kützing) Foslie f. *clavulata*]

Cape Verde Islands (210).

*Note.* Status and disposition uncertain; TRH neotype (Woelkerling, 678: 51) from the Adriatic Sea not studied in detail in a modern context; placement under *Spongites fruticosus* in this paper does not imply synonymy with the type of the species.

[As *Lithothamnium fruticosum* Foslie]

Mauritanie (354).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

*Note.* The type of *Spongites fruticosus*, which is also the type of the genus *Spongites*, has been studied by Woelkerling (1985: 135-139, figs 23-32), who (Woelkerling, 1988) placed the genus in the subfamily Mastophoroideae. As noted by Woelkerling (1985: 139), Kützing's epithet *fruticosum* has been widely misapplied to a species with multiporate tetrasporangial conceptacles belonging to the Corallinaceae, subfamily Melobesioideae and not to the subfamily Mastophoroideae. More recently, Woelkerling (729) concluded that at least some of the collections to which the epithet *fruticosus* had been misapplied were conspecific with the type of *Lithothamnion fasciculatum* (Lamarck) Areschoug in J. Agardh. All specimens upon which published records of *Spongites fruticosus* and its homotypic synonyms from the West African region are based now need to be checked to determine their status and disposition. Whether true *Spongites fruticosus* occurs in the West African region is uncertain. Penrose (1991) provides an account of *S. fruticosus* in southern Australia. Babbini & Bressan (753: 246) state 'non *fruticosus*' emendavit Penrose 1981; ICBN 1994, art. 62.4'. Specimens from the Cape Verde Islands identified (210: 214) as *Lithothamnion fruticosum* f. *clavulata* and as *L. fruticosum* f. *crassiuscula* also need to be checked to determine their status and disposition.

### **Spongites wildpretii** Afonso-Carrillo

Canaries (633;634;657;687;733;747).

[As *Lithophyllum absimile* Foslie]

Canaries (362;363).

[As *Neogoniolithon absimile* (Foslie & Howe) Cabioch nom. invalid]

Canaries (226;227;576;582;733).

*Note.* Afonso-Carrillo (733) based *Spongites wildpretii* on a series of collections from the Canary Islands, including ones earlier referred to *Lithophyllum absimile* or the invalid name *Neogoniolithon absimile* (see note under *Spongites absimile*). Subsequently, however, Keats & Chamberlain (754: 15, 18) and Chamberlain (702: 126) concluded that *Spongites wildpretii* is a heterotypic synonym of *Hydrolithon samoense* (Foslie) Keats & Y.M. Chamberlain based on examination of European specimens identified by Afonso-Carrillo but not listed by Keats & Chamberlain (754).

### **Sporolithon**

*Sporolithon* is now placed in a distinct family of Corallinales, the Sporolithaceae Verheij (1993). Comments on the incorrect use of the name *Archaeolithothamnium* for species referable to *Sporolithon* are provided by Papenfuss (1968: 83), Woelkerling (1988: 220) and Moussavian & Kuss (1990: 932-934).

### **Sporolithon africanum** (Foslie) Afonso-Carrillo

Canaries (11;582;726).

[As *Archaeolithothamnion* (-ium) *africanum* Foslie]

Canaries (6;70;139;191;205;212;227;361;363;365;366;493).

Cape Verde Islands (366).

*Note.* The combination *Sporolithon africanum* was first validly published by Afonso-Carrillo (11: 142). Wynne (1986: 2258), apparently unaware of the Afonso-Carrillo paper, subsequently proposed the same combination, crediting Tomita, who had first used it in an unpublished thesis in 1976. The combination also appeared in an unpublished thesis of Oliveira in 1977.

The holotype of *Sporolithon africanum* (from the Canary Islands) is divided between PC (Woelkerling, 730) and TRH (Woelkerling, 678: 23). Afonso-Carrillo (11: 142) examined the type but provided no details, and Townsend (1995) included comments on type material in a PhD thesis, but a published account of type material in a modern context has yet to appear. Other published records of the species from the West African region also require verification through re-examination of relevant voucher specimens. As noted by Afonso-Carrillo et al. (726: 133), Lemoine (353: 146), treated *S. africanum* (as *Archaeolithothamnium*) as a heterotypic synonym of *Lithophyllum africanum* Foslie (199: 3) [see account above of *Spongites africanum* (Foslie) Afonso-Carrillo, Chacana & Sanson].

**Spyridia aculeata** (Schimper) Kützing

See *Spyridia hypnoides* (Bory) Papenfuss.

**Spyridia armata** Kützing

See *Spyridia hypnoides* (Bory) Papenfuss.

**Spyridia clavata** Kützing

Angola (41;42;292;535).

Congo (249;250;292).

Gabon (249;586).

Gambia (292;350;535;586).

Ghana (292;350;377;586).

Mauritanie (624).

São Tomé (251;265;292;316;318;323;350;535;586).

Sénégal (50;55;59;99;249;292;350;722).

Senegambia (27;61;133;296;410;535).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Spyridia clavulata* Kützing]

Angola (352).

[As *Spyridia clavifera* J. Agardh]

'... ad oras Senegambiae ...' (25).

**Spyridia clavifera** J. Agardh

See *Spyridia clavata* Kützing.

**Spyridia clavulata** auct.

See *Centroceras clavulatum* (C. Agardh) Montagne and *Spyridia clavata* Kützing.

**Spyridia filamentosa** (Wulfen) Harvey

*Note on authorities.* De Toni (133: 1427-1429) placed *Conferva pallescens* Bory (90: 306, pl.V, figs 2A,B,C) in synonymy with *Spyridia filamentosa*. From the figures provided, there seems little reason to challenge this. The problem then arising is that of the earliest specific epithet for the taxon. Wulfen's *Cryptogamia Aquatica*, with the recognition of *Fucus filamentosus*, was dated 1803. Bory's work, dated the same year, states on the title page 'Germinal, An XI'. It will be necessary to establish the priority of these two works to assess correct nomenclature.

Annobon (Pagalú) (456;457).

Ascension Island (37).

Canaries (8;13;16;38B;38C;38D;70;71;108;128A;133;177;19;226;

227;229;230;235;236;237;295;304;306B;379;390;392;489;490;493;

546;547;555;556;584;598;633;634;635;662;663;684;745;747;751;752).

Cape Verde Islands (598;639).

Ghana (290).

Mauritanie (349;516;555;556;624).

St Helena (644).

Salvage Islands (38B;38C;38D;231;375;555;556;598).

São Tomé (251;265).

Sénégal (38B;38C;38D;55;59;555;556;722).

Sierra Leone (30;350;586).

Western Sahara (38B;38D).

'Atlantic Ocean (. . . African and American coasts, Canary Islands . . .)' (177).

'Atlantique tempéré et tropical (côtes d'Europe, d'Afrique . . .)' (190).

'... Atlantique. . . tropical (côtes . . . d'Afrique . . .)' (196).

'... in warm temperate and tropical parts of the Atlantic ocean ...' (350;586).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Widely distributed in tropical to temperate regions' (707).

'Océano Atlántico (desde Gran Bretaña hasta Sudáfrica . . .)' (751). [As *Spyridia filamentosa* Harvey]

Canaries (44;254;306;401;439;547).

São Tomé (261;263;265;269).

'Du sud de la Grande-Bretagne aux Canaries . . .' (89).

[As *Spyridia filamentosa* f. *B. friabilis* (Clemente) J. Agardh] Canaries (25).

[As *Conferva pallescens* Bory]

Canaries (90).

[As *Hutchinsia filamentosa* (Wulfen) C. Agardh]

'... Atlantico ab Anglia ad Teneriffam ...' (20).

*Note.* Lawson & John (350;586) remarked that many of the early reports of this species from offshore islands in the Gulf of Guinea have been discounted by Steentoft (535) who believed them misidentifications of *Spyridia hypnoides* (q.v.) They therefore placed all reports of *S. filamentosa* from São Tomé under *S. hypnoides* until re-examination and (if needed) reaffirmation of the original determination is possible.

**Spyridia hypnoides** (Bory) Papenfuss

Canaries (13;38B;38D;128A;226;227;306B;633;634;635;662;663;751).

Cape Verde Islands (38B;38D;598;652;683;713).

Gabon (586).

Ghana (299;300;346;491;586).

Mauritanie (38B;38D).

Príncipe (586).

Salvage Islands (38B;38D;598).

São Tomé (586).

Sénégal (38B;38D;722).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

'Océano Atlántico (desde las costas francesas hasta Senegal . . .)' (751).

[As *Spyridia hypnoides* (Bory ex Belanger) Papenfuss]

Ghana (292;377).

Gambia (296).

Mauritanie (349).

Senegambia (296).

Western Sahara (349).

[As *Spyridia hypnoides* var. *typica* (Bory ex Belanger) Papenfuss] Mauritanie (624).

[As *Spyridia hypnoides* (Bory in Belanger) Papenfuss]

Canaries (745).

[As *Spyridia aculeata* (Schimper) Kützing]

Canaries (72;108;191;235;304;351;535;556).

Cape Verde Islands (37;41;100;183;191;259;535;556;639).

Guinea-Bissau (529).

Príncipe (535).

Salvage Islands (556).

São Tomé (93;535).

Sénégal (59;122;196;529;556).  
 '... Atlantique du Maroc au Sénégal . . .' (196).  
 [As *Spyridia aculeata* (Schimper) Kützing f. *inermis*]  
 Príncipe (93;535).  
 [As *Spyridia aculeata* (Schimper) Kützing f. *typica*, f. *aculeata*]  
 São Tomé (93;535).  
 [As *Spyridia hypnoides* (Bory) Papenfuss var. *disticha* (Børgesen)  
 G.W. Lawson & D.M. John f. *inermis* G.W. Lawson & D.M. John]  
 Canaries (292).  
 Gabon (294;350).  
 Ghana (292;350;586).  
 Sénégal (292).  
 [As *Spyridia aculeata* Kützing]  
 Angola (42).  
 Cape Verde Islands (38;42;49;145;259).  
 Sénégal (42).  
 'De Cadiz au Sénégal . . .' (38;89).  
 'In oceano atlantico tropico.' (320).  
 '... et atlantico tropico' (318).  
 'Morocco to Sénégal' (97).  
 [As *Spyridia aculeata* (Schimper) J. Agardh [or Kützing] var. *disticha*  
 Børgesen]  
 Canaries (71;295).  
 Sénégal (59;295;529).  
 [As *Spyridia aculeata* (Schimper) Kützing var. *hypnoides* J. Agardh]  
 Sénégal (55).  
 [As *Spyridia aculeata* (Schimper) Kützing var. *hypneoides* Kützing]  
 Mauritanie (186;535;542).  
 Sénégal (55;122;186;535).  
 'S. Atlantic shores of Europe, Morocco to Sénégal . . .' (97).  
 'Morocco to Sénégal' (97)  
 [As *Spyridia aculeata* (Schimper) J. Agardh var. *hypnoides* J. Agardh]  
 Sénégal (59).  
 [As *Spyridia aculeata* (Un. itin.) Zanardini]  
 Cape Verde Islands (141A).  
 [As *Spyridia armata* Kützing]  
 Canaries (439).  
 Senegambia (318;320).  
 [As *Spyridia aculeata* var. *typica* Børgesen]  
 Canaries (71).  
 [As *Spyridia filamentosa* ]  
 São Tomé (261;263;264;265).  
 [As *Spyridia insignis* (J. Agardh) J. Agardh]  
 Cape Verde Islands (37;138;191;598;625).  
 Sénégal (408).  
 'pantropical' (625).  
 '... Afrique méridionale . . .' (38).  
 'Tropical Africa (N. Gambia – Congo river)' (598;625).  
 [As *Bindera insignis* J. Agardh]  
 Cape Verde Islands (528).  
**Spyridia insignis** (J. Agardh) J. Agardh  
 See *Spyridia hypnoides* (Bory) Papenfuss.  
**Spyridia** sp.  
 Angola (500).  
 Canaries (66;214).  
 Mauritanie (349).  
 Sénégal (399).  
 '... open shores in West Africa . . .' (347A).  
**Stenogramme interrupta** (C. Agardh) Montagne ex Harvey  
 Canaries (598;635).  
 Cape Verde Islands (37;115;172;598).  
 [As *Stenogramme interrupta* Montagne]

Cape Verde Islands (38;191).

**Stichothamnion cymatophyllum** Børgesen  
 Canaries (16;71;128A;191;225;227;253;281;306B;583;598;633;  
 634).

[As *Stichotamnion cymatophilum* Børgesen]

Canaries (235).

[As *Stichothamnium cymatophyllum* Børgesen]

Canaries (229).

*Note.* Feldmann (191) considered this alga to constitute a remarkable palaeoendemic in the Canaries flora '... C'est, en effet, le seul genre endémique parmi les algues des Canaries. Ses affinités possibles avec d'autres genres de Rhodomélacées sont assez obscures et ne permettent pas de déceler son origine'.

**Streblocladia camptocladia** (Montagne) Falkenberg  
 Namibia (36B;348;707).

[As *Orcasia pulla* Simons]

Angola (312A).

Namibia (312A;512).

**Streblocladia collabens** Falkenberg

Cape Verde Islands (598).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritanie; former W. Sahara]' (598).

[As '*Streblocladia*']

Sénégal (529).

**Streblocladia corymbifera** (C. Agardh) Kylin

Namibia (36B;707).

[As *Polysiphonia corymbifera* (J. Agardh) Harvey]

Namibia (167;348;523).

**Streblocladia fasciculifera** (Kützing) Falkenberg

Namibia (348).

**Streblocladia glomerulata** (Montagne) Papenfuss

[As *Streblocladia neglecta* Schmitz]

Sénégal (122).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritanie; former W. Sahara]' (598).

**Streblocladia neglecta** F. Schmitz

See *Streblocladia glomerulata* (Montagne) Papenfuss.

**Suhria vittata** (L.) J. Agardh

Namibia (36B;169;348;453;500;569;707;716).

'... im südlichen Teile des atlantischen Oceans . . .' (502).

'... praesertim ad litora Africae meridionalis vulgatissima . . .' (139).

[As *Fucus vittatus* L.]

Ghana (271).

*Note.* The record for Ghana (as Danish Guinea) is probably a misdetermination, since, rather surprisingly, no material having been traced, the attribution is by nomenclatural equivalence alone. Original P.E. Isert material from Ghana, perhaps destroyed in a fire in 1807, requires re-examination for certainty, although it is difficult to see how *Suhria*, if present, could have been confused easily with other taxa.

**Taenioma macrourum** Thuret

See *Taenioma nanum* (Kützing) Papenfuss.

**Taenioma nanum** (Kützing) Papenfuss

Bioko (346;350;586).

Canaries (17;341).

Cape Verde Islands (639).

Sierra Leone (295;350;432;586;598).

'Tropical Africa (N. Gambia – Congo river).' (598).

'... probably widespread in warm temperate and tropical seas.' (350;586).

[As *Taenioma macruorum* Thuret]

Canaries (11;227;489;584).

[As *Taenioma macroum* Thuret]

Canaries (375;430;543).

[As *Taenioma perpusillum* C. Agardh]

Canaries (71).

[As *Taenioma perpusillum* J. Agardh]

Sierra Leone (336;339).

**Taenioma perpusillum** (J. Agardh) J. Agardh

Canaries (13;38B;38D;71;108;226;227;304;589;634;635;684;747).

Cape Verde Islands (598).

Côte d'Ivoire (287;288;295;296;350;586).

Ghana (153;288;295;338;344;350;432;487;491;537;586).

Liberia (129;287;288;350;586).

Salvage Islands (38B;38D;598).

'... Atlantique tropical et subtropical . . .' (184).

'... probably widespread in warm temperate and tropical seas . . .'

(350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

'Virtually worldwide in tropical and subtropical seas . . .' (707).

[As *Taenioma perpusillum* J. Agardh]

Canaries (191;556).

Ghana (336).

Salvage Islands (556).

'... widespread in warmer seas.' (336).

'... seems to be widely spread in warmer seas.' (63).

[As *Taenioma perpusilla* (J. Agardh) J. Agardh]

Canaries (684).

[As *Taenioma perpusilla*]

Canaries (214).

*Note.* Cribb (113) commented '... *T. nanum* has been distinguished from *T. perpusillum* (J. Agardh) J. Agardh mainly on the basis of its possession of two terminal hairs, *T. perpusillum* having three. However, the number of hairs is variable in some reported populations of the two species, and Hollenberg (1967) has questioned the justification of recognizing *T. nanum* as distinct from *T. perpusillum*.'

**Taenioma** spp.

Mauritanie (624).

**Tayloriella tenebrosa** (Harvey) Kylin

Namibia (348;707).

**Tayloriella virgata** (C. Agardh) Papenfuss

Angola (352).

Namibia (352;487).

[As *Polysiphonia virgata* (C. Agardh) Sprengel]

Namibia (167;348).

*Note.* Wynne (36B) has argued for the retention of *Tayloriella virgata* under *Polysiphonia virgata* (C. Agardh) Sprengel but as the above records were omitted from our earlier publication (Lawson et al., 1995) they are included here for completeness.

**Tenarea** Bory

Woelkerling et al. (1985) concluded that *Tenarea* included only one known species (*T. tortuosa* Bory) and that most other species referred to the genus belonged to *Lithophyllum* or *Titanoderma* (see entry for *Titanoderma* below). Further comments on *Tenarea* are provided by Woelkerling (1988: 106–109) and Athanasiadis (1995).

**Tenarea adhaerens** Me. Lemoine

See *Neogoniolithon hirtum* (Me. Lemoine) Afonso-Carrillo.

**Tenarea confinis** (P. & H. Crouan) W.H. Adey & P. Adey

See *Titanoderma confinis* (P. & H. Crouan) J.H. Price, D.M. John & G.W. Lawson.

**Tenarea corallinae** P. & H. Crouan

See *Lithophyllum corallinae* (P. & H. Crouan) Heydrich.

**Tenarea hapalidioides** (P. & H. Crouan) W.H. Adey & P. Adey

See *Titanoderma hapalidioides* (P. & H. Crouan) J.H. Price, D.M. John & G.W. Lawson.

**Tenarea irregularis** (Foslie) Me. Lemoine

See *Lithophyllum irregulare* (Foslie) P. Huvé ex Steentoft.

The following are additional references:

[As *Tenarea irregularis* (Foslie) Me. Lemoine]

Canaries (191;362;363).

São Tomé (362;363).

[As *Lithophyllum irregularis* Foslie]

São Tomé (206;212).

**Tenarea polycephalum** (Foslie) W.H. Adey

See *Titanoderma polycephalum* (Foslie) Woelkerling, Y.M. Chamberlain & P.C. Silva.

**Tenarea tortuosa** (Esper) Me. Lemoine

Mauritanie (529).

[As *Lithophyllum tortuosum* (Esper) H. Huvé]

Canaries (107).

Mauritanie (349).

*Note.* According to Babbini & Bressan (753: 192), this species is an 'espèce méditerranéenne' (thus a mediterranean endemic species). Therefore, as also noted by Lawson & John (586: 210), these records appear doubtful but need to be checked against the relevant specimens. Esper's epithet *tortuosum* has been misapplied to a different species (see Huvé, 272; Woelkerling et al., 1985; Woelkerling, 730) commonly referred to *Lithophyllum. Tenarea tortuosa*, the type and only known true species of *Tenarea*, is known with certainty only from the eastern Mediterranean (Woelkerling, 1988: 109; Athanasiadis, 1995: 656). The earlier cross reference to *Lithophyllum cristatum* Meneghini f. *crassa* (Lloyd) Hauck (John et al., 1994: 61) does not involve any published records from the West African region but rather the opinion of Foslie (1898: 15) that f. *crassa*, based on *Melobesia crassa* Lloyd (see Woelkerling, 730), might be a heterotypic synonym of *Tenarea tortuosa*.

**Thamnoclonium claviferum** J. Agardh

Ghana (290;299;300;350;586;590).

'... in warm temperate and tropical seas' (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Thamnoclonium* sp.]

Ghana (292).

*Note:* May be conspecific with *Thamnoclonium dichotomum* (J. Agardh) J. Agardh. See Scott et al. (1984) and Womersley (712).

**Thuretella schousboei** (Thuret) F. Schmitz

Canaries (8;38B;38D;227;598;745).

Salvage Islands (38B;38D;598).

**Tiffaniella capitata** (Bornet) Doty & Meñez

Canaries (240;598;635;747;756).

Mauritanie (624?).

'... O. Atlántico (desde del N. Europa hasta Canarias)' (747).

[As *Tiffaniella capitatum* (Bornet) Doty & Meñez]

Canaries (663).

[As *Spermothamnion capitatum* (Schousboe) Bornet]

Canaries (71;189;191;227).

'... Tingin Africae borealis . . .' (133).

*Note.* For data on the genus and species of *Tiffaniella*, see Gordon (240).

**Tiffaniella gorgonea** (Montagne) Doty & Meñez

Canaries (597;747).

'... O. Atlántico Oriental y Occidental' (747).

[As *Tiffaniella gorgoneum* (Montagne) Doty & Meñez]

Canaries (240;598).

Cape Verde Islands (240;597;598;652).

Salvage Islands (598).

[As *Callithamnion gorgonium* Kützing]

'... in atlantico ad Africanum . . .' (27).

[As *Callithamnion gorgoneum* Montagne]

Canaries (500).

'In oceano atlantico ad oras Africae. Specimen dedit amic. Montagne.' (320).

Cape Verde Islands (37;408;410;500?;597).

[As *Spermothamnion gorgoneum* (Montagne) Bornet]

Canaries (38B;71;97;133;191;226;227;493).

Cape Verde Islands (713).

[As *Spermothamnion gorgonium* Bornet]

'Plante des Antilles et du Cap Vert, nouvelle pour les Canaries' (547).

### **Titanoderma Nägeli**

*Titanoderma* is considered here to be a heterotypic synonym of *Lithophyllum*; further comments appear under *Lithophyllum* (John et al., 1994: 59); see also Braga & Aguirre (1995: 270), Verheij (1994: 98) and Basso et al. (1996: 276). By contrast, Chamberlain (737: 204) has continued (see also Chamberlain, 1991 and Chamberlain & Irvine, 736) to maintain *Titanoderma* 'pending more conclusive, probably genetic, data to determine their relationship . . .'. Babbini & Bressan (753: 150) follow Chamberlain & Irvine (736). Chamberlain (737: 204), however, has noted the difficulties in assigning species such as *Lithophyllum johansenii* Woelkerling & Campbell to *Lithophyllum* or *Titanoderma* as delimited in her studies; other examples are given by Campbell & Woelkerling (1990) and Woelkerling & Campbell (1992).

As stated by Chamberlain (737: 204; see also Braga & Aguirre, 1995: 271), two distinct lines of development can be identified in the '*Lithophyllum-Titanoderma* complex': one in which the thallus includes a layer of palisade cells and one in which no such layer is present. In most attached species with a palisade layer, the thallus margin commonly does not immediately thicken while in species lacking a palisade layer, immediate thickening commonly does occur. While such trends may be interpreted in evolutionary terms, investing these with formal taxonomic status at genus level results in a situation where some species cannot be placed with certainty in either one genus or the other. For some attached species, including *Lithophyllum johansenii* and species mentioned by Campbell & Woelkerling (1990) and Woelkerling & Campbell (1992), known infraspecific variation precludes generic placement with certainty. For other species, known only from unattached specimens, information on the characters used by Chamberlain (737) for generic delimitation is lacking altogether, thus making generic placement purely conjectural. Of the eight British species placed by Chamberlain & Irvine (736) in *Lithophyllum* sensu Chamberlain, for example, the diagnostic characters of the genus as delimited by these authors (immediate thickening behind a bistratose margin and a basal layer of non-palisade cells – also see key on p. 30 of Chamberlain & Irvine, 736) are unknown for four (*L. dentatum*, *L. duckeri*, *L. fasciculatum*, *L. hibernicum*).

Investing apparent evolutionary trends in formal taxonomic terms at generic level in cases where it is presently impossible to draw firm boundaries or in cases where data on species are missing or are not apparent in any known specimens serves no useful purpose in either taxonomic or evolutionary terms, and it needlessly complicates the more practical matters of species placement and specimen identification. As noted by Braga & Aguirre (1995: 271), it is possible to recognize that two evolutionary lines are present within a single genus. If one wishes to emphasize in taxonomic terms that two

evolutionary lines are present within *Lithophyllum* sensu lato (i.e. sensu Woelkerling & Campbell, 1992 and Woelkerling, 1996a) without complicating the matters of species placement and naming as well as specimen identification, it is possible to recognize two subgenera, as has been done by some authors (e.g. Rosenvinge, 1917; Lemoine, 363; Newton, 1931).

### **Titanoderma byssoides** (Lamarck) Y.M. Chamberlain & Woelkerling

See *Lithophyllum byssoides* (Lamarck) Foslie

The following are additional records:

[As *Lithophyllum byssoides* (Lamouroux) Heydrich]

Cape Verde Islands (38B;71;133).

Mauritanie (6).

Salvage Islands (38B).

Sénégal (547).

'Plante des Antilles et du Cap Vert, nouvelle pour les Canaries' (547).

*Note.* The neotype mentioned under *Lithophyllum byssoides* (John et al., 1994: 60) has been superseded with the discovery of original Lamarck material, an account of which is provided by Woelkerling (729).

### **Titanoderma confine** (P. & H. Crouan) J.H. Price, D.M. John & G.W. Lawson (as *confinis*)

*Note.* In an earlier paper in this series, John et al. (1994: 64) treated this taxon as a heterotypic synonym of *Lithophyllum pustulatum*, noting that Chamberlain (1991, as *Titanoderma*) recognized it as a distinct variety of that species, and noting that all published records from the West African region required confirmation. The additional record of Chamberlain & Irvine (736: 105, as *Titanoderma pustulatum* var. *confine*) from the Canary Islands also requires confirmation. Earlier West African records are given by John et al. (1994: 64). Woelkerling (1996a: 229) reaffirmed the earlier conclusion of Woelkerling & Campbell (1992) that, in contrast to British populations (Chamberlain, 1991), southern Australian populations were highly and continuously variable, making it impossible to recognize distinct varieties in that region.

### **Titanoderma corallinae** (P. & H. Crouan) Woelkerling, Y.M. Chamberlain & P.C. Silva

See *Lithophyllum corallinae* (P. & H. Crouan) Heydrich.

The following are additional records:

[As *Titanoderma corallinae* (P. & H. Crouan) Woelkerling, Y.M. Chamberlain & P.C. Silva]

Canaries (633;736).

'British Isles to Canary Isles . . .' (649).

### **Titanoderma cystoseirae** (Hauck) Woelkerling, Y.M. Chamberlain & P.C. Silva

See *Lithophyllum cystoseirae* (Hauck) Heydrich

The following are additional records:

[As *Dermatolithon cystoseirae* (Hauck) H. Huvé]

Canaries (584).

Mauritanie (367)

'... au golfe de Guinée' (367).

[As *Lithophyllum cystoseirae* (Hauck) Heydrich]

Annobon (Pagalú) (455).

[As *Titanoderma papillosum* var. *cystoseirae* (Hauck) Me. Lemoine ex G.W. Lawson & D.M. John]

Annobon (Pagalú) (586).

*Note.* Woelkerling & Verheij (1995: 45) provide information on the lectotype.

### **Titanoderma geometricum** (Me. Lemoine) J.H. Price, D.M. John & G.W. Lawson

See *Lithophyllum geometricum* Me. Lemoine.

The following are additional records:

Cape Verde Islands (370).

**Titanoderma hapalidioides** (P. & H. Crouan) J.H. Price, D.M. John & G.W. Lawson

See *Lithophyllum pustulatum* (J.V. Lamouroux) Foslie

*Note.* In an earlier paper in this series, John et al. (1994: 64) treated this taxon as a heterotypic synonym of *Lithophyllum pustulatum*, noting that all published records from the West African region required confirmation. Earlier West African records are given by John et al. (1994: 64).

Chamberlain (1991, as *Titanoderma*) and Chamberlain & Irvine (736, as *Titanoderma*) recognized four distinct varieties of *pustulatum*, listing *T. hapalidioides* as a heterotypic synonym of *T. pustulatum* var. *macrocarpum*. In southern Australia, by contrast, Woelkerling & Campbell (1992, as *Lithophyllum*) and Woelkerling (1996a, as *Lithophyllum*) found that populations were highly and continuously variable, making it impossible to recognize distinct varieties for that region, and they listed *hapalidioides* as a heterotypic synonym of *Lithophyllum pustulatum*.

**Titanoderma papillosum** (Zanardini) J.H. Price, D.M. John & G.W. Lawson

See *Lithophyllum papillosum* (Zanardini ex Hauck) Foslie

The following are additional records:

[As *Lithophyllum papillosum* (Zanardini) Foslie]

Canaries (387).

[As *Lithophyllum (Dermatolithon) papillosum* (Zanardini) Foslie]

Canaries (70).

*Note.* Afonso-Carrillo et al. (582) considered this taxon (as *Goniolithon papillosum*) to be doubtfully present in the Canaries; records therefore necessitate confirmation, despite references given elsewhere.

**Titanoderma polycephalum** (Foslie) Woelkerling, Y.M. Chamberlain & P.C. Silva

See *Lithophyllum polycephalum* Foslie

The following are additional records:

[As *Goniolithon polycephalum* (Foslie) Afonso-Carrillo]

Cape Verde Islands (11;597).

[As *Lithophyllum (Dermatolithon) polycephalum* Foslie]

Canaries (70).

Cape Verde Islands (362).

[As *Tenarea polycephalum* (Foslie) Adey]

Canaries (11).

[As *Titanoderma polycephalum* (Foslie) Woelkerling, Y.M. Chamberlain & P.C. Silva]

Canaries (633;737).

Cape Verde Islands (737).

*Note.* Chamberlain (737, as *Titanoderma*) has provided an account of holotype material in TRH.

**Titanoderma polyclonum** (Foslie) Woelkerling, Y.M. Chamberlain & P.C. Silva

See *Lithophyllum polyclonum* Foslie

**Titanoderma pustulatum** (J.V. Lamouroux) Nägeli

See *Lithophyllum pustulatum* (J.V. Lamouroux) Foslie

The following are additional records:

[As *Dermatolithon pustulatum* (J.V. Lamouroux) Foslie]

Canaries (18).

[*Titanoderma hapalidioides* (P. & H. Crouan) J.H. Price, D.M. John & G.W. Lawson]

Canaries (227;362;375;582).

Salvage Islands (35B; 373).

[As *Titanoderma pustulatum* (J.V. Lamouroux) Nägeli]

Canaries (633;634;663;747).

'... Canary Islands, Senegal . . .' (649).

[As *Titanoderma pustulatum* (J.V. Lamouroux) Nägeli var. *pustulatum*]

Canaries (736).

Sénégal (736).

[As *Titanoderma pustulatum* (J.V. Lamouroux) Nägeli var. *confine*] Canaries (736).

**Titanoderma** sp.

See *Lithophyllum* spp.

The following is an additional record:

[As *Dermatolithon*]

Canaries (18).

**Trailiella intricata** Batters

See *Bonnemaisonia hamifera* Hariot.

The following is an additional record:

Canaries (598).

**Trematocarpus affinis** (J. Agardh) De Toni

See *Trematocarpus flabellatus* (J. Agardh) De Toni

*Note.* *Trematocarpus affinis* (J. Agardh) De Toni and *T. flabellatus* (J. Agardh) De Toni are considered by Simons (1983: 808) to belong to different species. He is followed in this by Womersley (712).

**Trematocarpus flabellatus** (J. Agardh) De Toni

Namibia (348;707).

**Trichogloeopsis pedicellata** (M. Howe) I.A. Abbott & Doty

Canaries (38C;232B;598;635;745).

**Tricleocarpa cylindrica** (Ellis & Solander) Huisman & Borowitzka

Canaries (663;734).

*Note.* See under *Galaxaura cylindrica* (Ellis & Solander) Lamouroux and *G. oblongata* (Ellis & Solander) Lamouroux. For further information, see Huisman & Borowitzka (1990) and Huisman & Townsend (1993).

**Tricleocarpa fragilis** (L.) Huisman & Townsend

[As *Tricleocarpa (Galaxaura) oblongata* (Ellis & Solander) Huisman & Borowitzka]

Cape Verde Islands (713).

*Note.* See also under *Galaxaura cylindrica* (Ellis & Solander) Lamouroux and *G. oblongata* (Ellis & Solander) Lamouroux. In Otero-Schmitt (713) the authors are mistakenly given as '(Ellis et Solander) Huisman et Borner'. Pérez & Afonso-Carrillo (734) state that the occurrence of *Tricleocarpa fragilis* (as *Tricleocarpa oblongata* (Ellis & Solander) Huisman & Borowitzka) has to be confirmed. They did not discover this species in many samples from the Canary Islands. However, they consider *Galaxaura fragilis* (Lamarck) Lamouroux ex Decaisne to be synonymous with *Tricleocarpa cylindrica* while Huisman & Townsend (1993) consider *Tricleocarpa fragilis* to be synonymous with, and having priority over, the combination *Tricleocarpa oblongata* (Ellis & Solander) Huisman & Borowitzka.

**Vickersia baccata** (J. Agardh) Karsakoff

Canaries (240;306B;489;499;598;635;684).

Cape Verde Islands (652;713).

Sénégal (529;598).

'... Atlantique (. . . Canaries . . .) . . . (33).

'Lusit.-Africain- Médit.' (529).

[As *Vickersia baccata* (J. Agardh) Karsakoff emend. Børgesen]

Canaries (13;38B;71;189;191;226;227;490;634;745;747).

Salvage Islands (38B;231).

'... O. Atlántico (desde Portugal hasta Cabo Verde) . . .' (747).

[As *Vickersia baccata* J. Agardh]

Canaries (5).

[As *Vickersia canariensis* Karsakoff]

Canaries (133;139;311;493;499;538;547).

**Vickersia canariensis** Karsakoff

See *Vickersia baccata* (J. Agardh) Karsakoff.

**Vickersia** sp.

Cape Verde Islands (639).

Ghana (377).

**Vidalia volubilis** (L.) J. Agardh

Canaries (66;71;89;133;179;191;226;227;390;392;439;448;517;584;598;663).

Senegambia (133;179;296).

'... an den atlantischen Küsten von Spanien bis zum Senegal ...' (281;501).

'... Atlantique subtropicale (de Cadiz au Sénégal)' (190).

'De Cadiz aux Canaries et au Sénégal (Leprieur)' (89).

'From Cadiz southwards to Senegal' (71).

'Subtropical Africa [Sénégal (N. of Gambia); Mauritania; former W. Sahara]' (598).

'Tropical Africa (N. Gambia – Congo river)' (598).

*Note.* According to Norris (1991) the correct name is *Osmundaria volubilis* (L.) R.E. Norris. See note under that name.

**Waldoia antillana** W.R. Taylor

Ghana (286;290;292;299;350;377;586).

'... in tropical parts of the Atlantic Ocean ...' (350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

**Wrangelia argus** (Montagne) Montagne

Ascension Island (475).

Cameroun (288;350;586).

Canaries (38B;38C;38D;68;83;89;97;124;191;240;351;407;417A;547;553;559;572?;598;633;634;635;662;663).

Cape Verde Islands (37;38B;38C;38D;598;639;652;713).

Gambia (350;586).

Ghana (154;240;288;338;340;344;350;537;586;590).

Liberia (129;288;350;586).

St Helena (644).

Salvage Islands (38B;38D;598).

Togo (288;293;350;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Wrangelia argus* Montagne]

Ascension Island (474;475).

Canaries (60;68;83;97;139;227;375;457;547;745).

Cape Verde Islands (191).

Ghana (297;491).

[As *Wrangelia argus* J. Agardh]

Canaries (439).

[As *Wrangelia plebeja* J. Agardh]

Cape Verde Islands (38;150).

[As *Griffithsia argus* Montagne]

Canaries (25;26;44;266;318;320;401).

'... tropical and subtropical regions of the world.' (417A).

'... widespread on tropical and subtropical coasts ...' (559).

'... widespread in warm temperate and tropical seas ...' (350;586).

**Wrangelia penicillata** (C. Agardh) C. Agardh

Canaries (18;38B;38D;68;70;584;598;634;635;662;684;747;752).

Cape Verde Islands (598;639).

Ghana (292;299;350;376;377;586).

Salvage Islands (598).

'Mediterranean and warmer areas of the Atlantic Ocean' (269).

'... widespread in warm temperate and tropical seas' (350;586).

[As *Wrangelia penicillata* C. Agardh]

Canaries (13;68;177;191;226;227;375;392;556).

St Helena (644).

Salvage Islands (38B;38D;556).

'... Atlantic tropical et subtropical.' (190;196).

'... Atlantic Ocean (... African and American coasts, Canary Islands ...)' (177).

'... in dem wärmeren Teilen der nördlichen Hälfte des atlantischen oceans ...' (502).

**Wrangelia plebeja** J. Agardh

See *Wrangelia argus* (Montagne) Montagne.

**Wurdemannia miniata** (Sprengel) J. Feldmann & Hamel

[As *Wurdemannia miniata* (Duby) J. Feldmann & Hamel]

Cameroun (350;586).

Canaries (584;598;635;720;747).

Cape Verde Islands (598;713;720).

Salvage Islands (598).

São Tomé (350;535;586).

'Tropical Africa (N. Gambia – Congo river)' (598).

[As *Wurdemannia miniata* (Draparnaud) J. Feldmann & Hamel]

Canaries (38B;177;188;191;194;227;489;535;745).

Cape Verde Islands (38;38B;100;183;191).

São Tomé (535).

'... côtes africaines de l'Atlantique tropical et subtropical ...' (194).

'... côtes occidentales d'Afrique et aux Canaries ...' (184).

[As *Wurdemannia miniata* (Draparnaud ex A.P. DeCandolle) Feldman & Hamel]

Canaries (633;634).

[As *Wurdemannia setacea* Harvey]

Canaries (38C;70;71;375;555;556).

Cape Verde Islands (38;38C;145;555;556).

Salvage Islands (38C;555;556).

[As *Caulacanthus ustulatus* (Martens) Kützing]

São Tomé (251;263;264;265).

*Note.* Correct citation is *Wurdemannia miniata* (Sprengel) J. Feldmann & Hamel, see Silva et al. (1987) and Silva et al. (746).

**Wurdemannia setacea** Harvey

See *Wurdemannia miniata* (Sprengel) J. Feldmann & Hamel.

**Wurdemannia** sp.

Cape Verde Islands (639)

**Zanardinia marginata** J. Agardh

See *Galaxaura marginata* (Ellis & Solander) Lamouroux.

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## AN UPDATE OF CURRENT NAMES FOR NON-GENICULATE CORALLINES REPORTED FROM WEST AFRICA

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In the second edition of the floristic account complementing this series of critical assessments (Price et al., 1986, 1988, 1992; John et al., 1994; Lawson et al., 1995; this paper), Lawson & John (586:196) foreshadowed re-alignments and nomenclatural changes in species of coralline algae reported from tropical West Africa as a consequence of renewed taxonomic interest in the group. Since 1987, a number of changes in generic concepts have occurred, new families and subfamilies have been described, and the status and disposition of various species have been reassessed. While the status and disposition of many species reported from tropical west Africa still remain uncertain, and while most earlier records require confirmation, post-1987 studies on non-geniculate corallines have clarified the status and generic disposition of a number of species and infraspecific taxa based on types from or reported to occur in the West African region.

The following list summarizes the current situation for non-geniculate Corallinales mentioned in previous parts of the West African critical assessment series, including the floristic accounts of Lawson & John (350, 586). The list is organized alphabetically by specific epithet, with infraspecific taxa listed alphabetically within species. Generic names associated with specific and infraspecific taxa in the series are given in parentheses after the relevant epithet.

For each taxon, the following data are provided: references to the name in the West African critical assessment series and the floristic accounts (Lawson & John, 350, 586); current placement/name of the taxon; new records; and comments relating to that placement including information on type material. Records based on identifications only at genus level (e.g. *Choreonema* sp., *Mesophyllum* sp.) are not included.

Recently reported/new records are presented for the following taxa: *Hydrolithon boreale* (Foslie) Y.M. Chamberlain; *H. cruciatum* (Bressan) Y.M. Chamberlain; *H. farinosum* (J.V. Lamouroux) Penrose & Y.M. Chamberlain; *H. samoense* (Foslie) Keats & Y.M. Chamberlain; *Leptophytum ferox* (Foslie) Y.M. Chamberlain & Keats; *L. foveatum* Y.M. Chamberlain & Keats; *Lithophyllum lobatum* Me. Lemoine; *L. neoatlyense* T. Masaki; *Lithoporella melobesioides* (Foslie) Foslie; *Lithothamnion corallioides* (P. & H. Crouan) P. & H. Crouan; *L. sonderi* Hauck; *Mesophyllum engelhartii* (Foslie) W.H. Adey; *M. erubescens* (Foslie) Me. Lemoine; *M. lichenoides* (J. Ellis) Me. Lemoine; *Phynatolithon lenormandii* (Areschoug) W.H. Adey; *Pneophyllum fragile* Kützing.

#### **absimile (Lithophyllum, Neogoniolithon, Spongites)**

SERIES REFERENCES. John et al., 1994: 60, 77; this paper.

CURRENT PLACEMENT/NAME. *Spongites absimile* (Foslie & M. Howe) Afonso-Carrillo, according to Afonso-Carrillo (733), but see comments.

COMMENTS. Status and disposition of species uncertain; TRH holotype (Woelkerling, 678: 14) from Jamaica examined by Afonso-Carrillo (733) but placed with uncertainty in *Spongites*; see note to *Spongites absimile* (this paper) for further information.

#### **accretum (Goniolithon, Lithophyllum, Neogoniolithon)**

SERIES REFERENCES. Price et al., 1988: 230; John et al., 1994: 60, 77.

CURRENT PLACEMENT/NAME. *Neogoniolithon accretum* (Foslie & M. Howe) Setchell & L.R. Mason, according to Adey (1970: 8), but see comments.

COMMENTS. Status and disposition of species uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the Florida US holotype in NY (Woelkerling, 678: 14).

#### **accretum f./var. canariense/canariensis (Lithophyllum, Neogoniolithon)**

SERIES REFERENCES. John et al., 1994: 60, 77 (under *Neogoniolithon accretum*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from Canary Islands divided between PC (Woelkerling, 730) and TRH (Woelkerling, 678) but not studied in detail in a modern context; placement under *Neogoniolithon accretum* (John et al., 1994: 77) in this series follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

#### **adhaerens (Tenarea)**

SERIES REFERENCES. John et al., 1994: 78 (under *Neogoniolithon hirtum*); this paper.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Neogoniolithon hirtum* (Me. Lemoine in Børgesen) Afonso-Carrillo, according to Afonso-Carrillo (11: 131).

COMMENTS. Conclusion of Afonso-Carrillo (11) based on examination of holotype (from Canary Islands) in C.

#### **aequinoctiale (Lithophyllum, Porolithon)**

SERIES REFERENCES. Lawson & John, 350: 243; Lawson & John, 586: 215; John et al., 1994: 60; Lawson et al., 1995: 111.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678: 20) from São Tomé not studied in detail in a modern context; placement in *Porolithon* in this series based on pragmatic considerations explained under entry for genus (Lawson et al., 1995: 111).

#### **africanum (Archaeolithothamnion, Sporolithon)**

SERIES REFERENCES. Price et al., 1986: 17; this paper.

CURRENT PLACEMENT/NAME. *Sporolithon africanum* (Foslie) Afonso-Carrillo, according to Afonso-Carrillo (11: 142).

COMMENTS. Holotype from Canary Islands divided between PC (Woelkerling, 730) and TRH (Woelkerling, 678); conclusion of Afonso-Carrillo (11) based on examination of TRH portion of holotype.

#### **africanum (Lithophyllum, Porolithon, Spongites)**

SERIES REFERENCES. Lawson & John, 350: 244; Lawson & John, 586: 215; John et al., 1994: 60; Lawson et al., 1995: 112; this paper.

CURRENT PLACEMENT/NAME. *Spongites africanum* (Foslie) Afonso-Carrillo, Chacana & Sansón, according to Afonso-Carrillo et al. (726: 133), but see notes under main species entry in this paper.

COMMENTS. Conclusion of Afonso-Carrillo et al. (726) based on study of TRH holotype (Woelkerling, 678: 23-24) from Cap Vert, Sénégal.

#### **africanum f. intermedia (Lithophyllum)**

See under *Spongites africanum*.

#### **africanum f. truncata (Lithophyllum)**

See under *Spongites africanum*.

#### **amplexifrons (Lithophyllum, Lithothamnion, Melobesia, Pneophyllum)**

SERIES REFERENCES. John et al., 1994: 60, 66, 71; Lawson et al., 1995: 105.

CURRENT PLACEMENT/NAME. *Pneophyllum amplexifrons* (Harvey) Y.M. Chamberlain & R.E. Norris, according to Chamberlain & Norris (1994).

Additional records: Cape Verde Islands (625); pantropical (625). COMMENTS. Conclusion of Chamberlain & Norris (1994) based on study of TCD lectotype (Woelkerling & Campbell, 1992: 98) from South Africa.

#### **angolense (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 66.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; whereabouts of type material uncertain; protologue (Romanes, 677) based on fossil specimens from four localities.

#### **aninae (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 60.

CURRENT PLACEMENT/NAME. *Lithophyllum aninae* Foslie, accord-



ing to Adey (1970: 8), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the TRH holotype (Woelkerling, 678: 27) from the Cape Verde Islands; holotype fragments in PC (Woelkerling, 730).

**antarcticum (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 66.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Synarthrophyton patena* (Hooker f. & Harvey in Harvey) R.A. Townsend; see May & Woelkerling (1988: 68).

COMMENTS. Delete from flora; no published record of occurrence from West African region found.

**applicatum (Lithophyllum, Mesophyllum)**

SERIES REFERENCES. John et al., 1994: 60, 73, 78 (under *Neogoniolithon hirtum*).

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Neogoniolithon hirtum* (Me. Lemoine in Børgesen) Afonso-Carrillo, according to Afonso-Carrillo (11: 131), but see comments.

COMMENTS. Conclusion of Afonso-Carrillo (11) based on examination of type material from Canary Islands in C; lectotype, however, apparently not yet designated (Woelkerling, 730, under *Lithophyllum applicatum*) and placement requires confirmation following lectotypification (John et al., 1994: 78).

**atlantica (Lithoporella)**

SERIES REFERENCE. John et al., 1994: 65.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Lithoporella melobesioides* (Foslie) Foslie, according to Lemoine (371: 44), but proposed synonymy not based on examination of type material (for data on type material, see Woelkerling, 678, 730).

COMMENTS. Delete from flora; no published record of occurrence from West African region found.

**bisporum (Leptophytum, Lithophyllum, Lithothamnion, Phymatolithon)**

SERIES REFERENCES. John et al., 1994: 57, 60, 66; Lawson et al., 1995: 102.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from Canary Islands in PC (Woelkerling, 730) with fragments in TRH (Woelkerling, 678); not studied in detail in a modern context.

**boergesenii (Goniolithon, Hydrolithon, Porolithon)**

SERIES REFERENCES. Lawson & John, 350: 235; Lawson & John, 586: 206; Price et al., 1988: 230; Price et al., 1992: 131; Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. *Hydrolithon boergesenii* (Foslie) Foslie, according to Woelkerling in Price et al. (1992: 131).

COMMENTS. Conclusion of Woelkerling (in Price et al., 1992) based on examination of TRH lectotype (Woelkerling, 678: 40) from US Virgin Islands.

**boergesenii f./var. africana (Goniolithon, Porolithon)**

SERIES REFERENCES. Price et al., 1992: 131 (under *Hydrolithon boergesenii*); Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678: 23) from São Tomé not studied in detail in a modern context; placement under *Hydrolithon boergesenii* in Price et al., (1992) follows format conventions (see Price et al., 1992: 123) without implying synonymy with the type of the species.

**boreale (Hydrolithon)**

SERIES REFERENCES. Not previously reported.

CURRENT PLACEMENT/NAME. *Hydrolithon boreale* (Foslie) Y.M. Chamberlain, according to Chamberlain (702: 116).

NEW RECORDS. Canaries (687:702).

COMMENTS. Conclusion of Chamberlain (702) based on study of TRH lectotype from Ireland.

**bornetii (Leptophytum, Lithothamnion)**

SERIES REFERENCES. John et al., 1994: 57, 66.

CURRENT PLACEMENT/NAME. See comments.

COMMENTS. Based on a detailed study of type material in PC (Woelkerling, 730) and TRH (Woelkerling, 678), Chamberlain (1990) placed the species in *Leptophytum*. Subsequently, Düwel & Wegeberg (1996) concluded from a study of relevant types that *Leptophytum* constitutes a heterotypic synonym of *Phymatolithon*. Babbini & Bressan (753: 312), clearly without knowing the work of Düwel & Wegeberg (1996), considered the genus *Leptophytum* as insufficiently characterized, and the species as dubious and rare. Evidence from the type of *bornetii* presented by Chamberlain (1990) strongly suggests that the species belongs to *Phymatolithon*, but it has yet to be validly transferred into that genus (comments on invalid transfers to *Phymatolithon* are provided under *Lithothamnion bornetii*; see John et al., 1994: 66).

**brachycladum (Lithothamnion, Mesophyllum)**

SERIES REFERENCES. Lawson & John, 350: 240; Lawson & John, 586: 210; John et al., 1994: 66, 73.

CURRENT PLACEMENT/NAME. *Mesophyllum brachycladum* (Foslie) W.H. Adey, according to Adey (1970: 22), but see comments.

COMMENTS. Status and disposition of species uncertain; holotype (Woelkerling, 678: 14) from St Helena Island mainly in BM with fragments in PC and TRH (Woelkerling, 678, 730) but not studied in detail in a modern context.

**brassica-florida (Goniolithon, Lithothamnion, Melobesia, Neogoniolithon)**

SERIES REFERENCES. Price et al., 1988: 231; John et al., 1994: 67, 71, 77, 78 (under *Neogoniolithon mamillare*).

Current name: *Neogoniolithon brassica-florida* (Harvey) Setchell & L.R. Mason, according to Woelkerling et al. (678: 324–326).

COMMENTS. Conclusion of Woelkerling et al. (678) based on a study of the BM lectotype from South Africa.

**byssoides (Goniolithon, Lithophyllum, Titanoderma)**

SERIES REFERENCES. Price et al., 1988: 231; John et al., 1994: 60; this paper.

CURRENT PLACEMENT/NAME. *Lithophyllum byssoides* (Lamarck) Foslie, according to Woelkerling (729).

COMMENTS. Conclusion of Woelkerling (729) based on a study of PC lectotype, said but not confirmed to come from the English Channel.

**calcareum (Lithophyllum, Lithothamnion, Lythophyllum, Phymatolithon)**

SERIES REFERENCES. John et al., 1994: 60, 67, 71; Lawson et al., 1995: 103.

CURRENT PLACEMENT/NAME. *Phymatolithon calcareum* (Pallas) W.H. Adey & D.L. McKibbin, according to Woelkerling & Irvine (1986a).

COMMENTS. Conclusion of Woelkerling & Irvine (1986a) based on a detailed study of the designated neotype (from Falmouth harbour, England) in BM.

**calcareum f. crassa (Lithothamnion)**

SERIES REFERENCE. Lawson et al., 1995: 103 (under *Phymatolithon calcareum*).

CURRENT PLACEMENT/NAME. *Lithothamnion calcareum* f. *crassa* (Philippi) Me. Lemoine, considered a heterotypic synonym of *Lithophyllum racemus* (Lamarck) Foslie, according to Basso et al. (1996: 284–286).

COMMENTS. See comments for *Lithophyllum racemus*. Babbini & Bressan (753: 124, 128) listed *Lithophyllum crassum* Philippi as a synonym of *Lithophyllum racemus* (Lamarck) Foslie (with a f. *crassa* (Philippi) Foslie) along with *Phymatolithon calcareum* f. *crassa* Me. Lemoine.

**callithamnioides sensu Falkenberg (Melobesia)**

SERIES REFERENCE. John et al., 1994: 71.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Application of name uncertain and apparently also commonly misapplied (see comments in Chamberlain, 94: 351–352; John et al., 1994: 71; Chamberlain, 702: 116–117 under *Hydrolithon boreale*). Babbini & Bressan (753: 200) classified this under *Hydrolithon farinosum* (P.V. Lamouroux) Penrose & Y.M. Chamberlain. Relevant collections of Falkenberg require re-investigation as a basis for resolving uncertainties.

**canariense/canariensis (Lithophyllum, Lithothamnion, Mesophyllum)**

SERIES REFERENCES. Lawson & John, 350: 241; Lawson & John, 586: 211; John et al., 1994: 60, 67, 74.

CURRENT PLACEMENT/NAME. *Mesophyllum canariense* (Foslie) Me. Lemoine, according to Reyes & Afonso-Carrillo (687).

COMMENTS. Conclusion of Reyes & Afonso-Carrillo (687) based on examination of TRH portion (Woelkerling, 678) of holotype (from Canary Islands); major portion of holotype now known to be in PC (Woelkerling, 730).

**canariense var. difformis (Mesophyllum)**

SERIES REFERENCE. John et al., 1994: 74 (under *Mesophyllum canariense*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from Canary Islands presumed to be in C but not studied in detail in a modern context; placement under *Mesophyllum canariense* (John et al., 1994: 74) in this series follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

**canariense var. fasciata (Mesophyllum)**

SERIES REFERENCE. John et al., 1994: 74 (under *Mesophyllum canariense*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from Canary Islands presumed to be in C but not studied in detail in a modern context; placement under *Mesophyllum canariense* (John et al., 1994: 74) in this series follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

**capense/capensis (Lithophyllum, Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 60, 67.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; lectotype in CN (Woelkerling & Verheij, 1995: 38) from South Africa not studied in detail in a modern context; isolectotypes present in BM, L, and PC (Woelkerling & Verheij, 1995; Woelkerling, 1998b).

**caribaeum (Lithophyllum, Neogoniolithon)**

SERIES REFERENCE. John et al., 1994: 60, 77.

CURRENT PLACEMENT/NAME. *Neogoniolithon caribaeum* (Foslie) W.H. Adey, according to Adey (1970: 8), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the TRH lectotype (Woelkerling, 678: 48) from the US Virgin Islands.

**confervicola (Melobesia, Pneophyllum)**

SERIES REFERENCES. John et al., 1994: 71; Lawson et al., 1995: 106.

CURRENT PLACEMENT/NAME. *Pneophyllum confervicola* (Kützing) Y.M. Chamberlain, according to Chamberlain (94: 385; 702: 137).

COMMENTS. Conclusions of Chamberlain (94:702) based on examination of holotype from Italy in L (Woelkerling & Verheij, 1995: 41).

**conferviculum f. minutula (Pneophyllum)**

SERIES REFERENCE. Lawson et al., 1995: 106 (under *Pneophyllum confervicola*).

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Pneophyllum confervicola* (f. *confervicola*), according to Chamberlain (1994b: 140).

COMMENTS. Conclusion of Chamberlain (702) based on examination (Chamberlain, 94: 394) of TRH holotype (Woelkerling, 678: 151) from Norway.

**confine/confinis (Dermatolithon, Melobesia, Tenarea, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 71; this paper.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Lithophyllum pustulatum* (Lamouroux) Foslie, according to Woelkerling & Campbell (1992: 79). Although others (Chamberlain, 1991; Babbini & Bressan, 753: 181) list it as *Titanoderma pustulatum* var. *confine* (P. & H. Crouan) Y.M. Chamberlain.

COMMENTS. Conclusion of Woelkerling & Campbell (1992) takes account of study of PC lectotype by Chamberlain (1991, as

*Titanoderma*); lectotype (Woelkerling, 730) presumed (Chamberlain, 1991) to be from France.

**conjuncta (Lithoporella, Mastophora)**

SERIES REFERENCE. John et al., 1994: 66, 71.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Lithoporella melobesioides* (Foslie) Foslie, according to Lemoine (371: 44), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Lemoine (371) not based on study of lectotype (from Cape Verde Islands) in TRH (Woelkerling, 678); also treated as a distinct species of *Lithoporella* (Adey, 1970: 15).

**corallinae (Dermatolithon, Lithophyllum, Melobesia, Tenarea, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 60, 72; this paper.

CURRENT PLACEMENT/NAME. *Lithophyllum corallinae* (P. & H. Crouan) Heydrich, according to Woelkerling & Campbell (1992: 41).

COMMENTS. Conclusion of Woelkerling & Campbell (1992) based on an examination of the lectotype (from France) in CO and the earlier detailed study of the lectotype by Chamberlain (1991: 66, as *Titanoderma*).

**corallioides (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 67.

CURRENT PLACEMENT/NAME. *Lithothamnion corallioides* (P. & H. Crouan) P. & H. Crouan, according to Chamberlain & Irvine (701: 177).

NEW RECORD. Canaries (701).

COMMENTS. Conclusion of Chamberlain & Irvine (701) based on the selection and study of the neotype; information on isoneotypes in PC provided by Woelkerling (730).

**corticiforme/corticiformis (Epilithon, Lithothamnion, Melobesia)**

SERIES REFERENCES. Price et al., 1986: 89; John et al., 1994: 67, 72.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Melobesia membranacea* (Esper) J.V. Lamouroux, according to Chamberlain (94: 300, 306).

COMMENTS. Conclusion of Chamberlain (94) based on examination of the holotype (from an unnamed locality in the Atlantic Ocean) in L; additional information on holotype provided by Woelkerling & Verheij (1995: 42).

**crassum (Lithothamnion)**

SERIES REFERENCES. John et al., 1994: 67; Lawson et al., 1995: 103 (under *Phymatolithon calcareum*).

CURRENT PLACEMENT/NAME. *Lithothamnion crassum* Philippi considered a heterotypic synonym of *Lithophyllum racemus* (Lamarck) Foslie, according to Basso et al. (1996: 284–286) and Babbini & Bressan (753: 258).

COMMENTS. See comments for *Lithophyllum racemus*.

**crispatum (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 67.

CURRENT PLACEMENT/NAME. Not determined. Babbini & Bressan (753: 258), however, listed it as *Lithothamnion crispatum* Hauck; see comments.

COMMENTS. Status and disposition uncertain; lectotype from Adriatic Sea in L (Woelkerling & Verheij, 1995: 44) vegetatively concordant with *Lithothamnion*, but absence of reproductive material precludes certain generic placement; information on PC and TRH isolectotypes provided by Woelkerling (730).

**crouanii (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 61.

CURRENT PLACEMENT/NAME. *Lithophyllum crouanii* Foslie, according to Chamberlain et al. (1988).

COMMENTS. Conclusion of Chamberlain et al. (1988) based on examination of lectotype from England in TRH (Woelkerling, 678: 68).

**cruciatum (Hydrolithon)**

SERIES REFERENCES. not previously reported.

CURRENT PLACEMENT/NAME. *Hydrolithon cruciatum* (Bressan) Y.M. Chamberlain, according to Chamberlain (702: 120).

NEW RECORDS. Canaries (687;702).

COMMENTS. Conclusion of Chamberlain (702) requires confirmation via a study of the TSB holotype from Italy; type not seen by Chamberlain (702).

**cystoseirae (Dermatolithon, Lithophyllum, Melobesia, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 61, 72; this paper.

CURRENT PLACEMENT/NAME. *Lithophyllum cystoseirae* (Hauck) Heydrich, according to John et al. (1994: 61).

COMMENTS. Conclusion of John et al. (1994) based on data on the lectotype from Italy in L (Woelkerling & Verheij, 1995: 45) provided by Huvé (272) and Athanasiadis (1989).

**cystoseirae f./var. saxicola (Dermatolithon)**

SERIES REFERENCE. John et al., 1994: 61 (under *Lithophyllum cystoseirae*).

CURRENT PLACEMENT/NAME. *Nom. nud.*; see comments.

COMMENTS. Name first coined by Huvé (272: 234) and mentioned by Lemoine (368: 6) but never validated with a description or designation of a type specimen in accordance with Articles 36 and 37 of the ICBN (see Greuter, 1994).

**daedaleum (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 61.

CURRENT PLACEMENT/NAME. *Lithophyllum daedaleum* Foslie & M. Howe, according to Adey (1970: 5), but see comments.

COMMENTS. Status and disposition uncertain; NY holotype (Woelkerling, 678: 27) from Puerto Rico not studied in detail in a modern context; information on isotypes and paratype at TRH, L, and PC provided by Woelkerling (678), Woelkerling & Verheij (1995) and Woelkerling (730).

**decussatum f. planiuscula (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 61 (as '*planiscula*').

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from Morocco in TRH (Woelkerling, 678: 173) not studied in detail in a modern context; West African record questionable (John et al., 1994: 61).

#### **duckeri (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 61.

CURRENT PLACEMENT/NAME. *Lithophyllum duckeri* Woelkerling (1983a: 184), a *nom. nov.* for *Lithothamnion crassum* Philippi, considered a heterotypic synonym of *Lithophyllum racemosum* (Lamarck) Foslie, according to Basso et al. (1996: 284–286).

COMMENTS. See comments for *Lithophyllum racemosum*.

#### **ectocarpon (Lithothamnion, Mesophyllum)**

SERIES REFERENCE. John et al., 1994: 67, 74.

CURRENT PLACEMENT/NAME. *Mesophyllum ectocarpon* (Foslie) W.H. Adey, according to Adey (1970: 23), but see comments.

COMMENTS. Status and disposition uncertain; TRH lectotype (Woelkerling, 678: 27) from Cap Blanc, Sénégal not studied in detail in a modern context; placement in *Mesophyllum* somewhat in question (Adey, 1970: 23); information on isolectotype in L provided by Woelkerling & Verheij (1995: 51).

#### **endophloea (Schmitziella)**

See under *Schmitziella endophloea* Bornet ex Batters (see also Woelkerling & Irvine, 1982).

#### **engelhartii (Mesophyllum)**

SERIES REFERENCES. not previously reported.

CURRENT PLACEMENT/NAME. *Mesophyllum engelhartii* (Foslie) W.H. Adey, according to Woelkerling & Harvey (1993: 581).

NEW RECORD. Namibia (742).

COMMENTS. Conclusion of Woelkerling & Harvey (1993) based on study of TRH lectotype (Woelkerling (678: 84) from southern Australia.

#### **erubescens (Lithothamnion, Mesophyllum)**

SERIES REFERENCES. John et al., 1994: 67, 74.

CURRENT PLACEMENT/NAME. *Mesophyllum erubescens* (Foslie) Me. Lemoine, according to Keats & Chamberlain (755: 175).

ADDITIONAL RECORDS. Cape Verde Islands (625); pantropical (625).

NEW RECORD. Sénégal (755).

COMMENTS. Conclusion of Keats & Chamberlain (755) based on examination of holotype from Brasil in TRH (Woelkerling, 678: 85).

#### **esperii (Lithophyllum, Pseudolithophyllum)**

SERIES REFERENCES. John et al., 1994: 61; Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; species based on a series of collections from Canary Islands (Lemoine, 362: 63) but not lectotypified and original collections not studied in detail in a modern context (John et al., 1994: 61).

#### **expansa/expansum (Crodedia, Lithophyllum, Pseudolithophyllum)**

SERIES REFERENCES. Price et al., 1986: 78; John et al., 1994: 62, 63 (under *Lithophyllum lobatum*), 75 (under *Mesophyllum lichenoides*); Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Mesophyllum lichenoides*, according to Woelkerling (1983b: 307) and Lawson et al. (1995: 112), but see comments.

COMMENTS. Holotype from Sicily in L (Woelkerling & Verheij, 1995: 51) studied in detail by Woelkerling (1983b: 307) who suggested conspecificity with *Mesophyllum lichenoides*; disposition of plants referred to *Pseudolithophyllum expansum* (Philippi) Me. Lemoine sensu Lemoine discussed by Furnari et al. (1996). On the other hand, Babbini & Bressan (753: 130) listed this under *Lithophyllum frondosum* (Dufour) Furnari, Cormaci & Alongi f. *expansum* (Me. Lemoine) Babbini & Bressan, a name which has to be checked against the provisions of ICBN 1994 for acceptability (see Greuter, 1994).

#### **expansum f. exigua (Lithophyllum)**

SERIES REFERENCES. John et al., 1994: 75 (under *Mesophyllum lichenoides*); Lawson et al., 1995: 112 (under *Pseudolithophyllum expansum*).

CURRENT PLACEMENT/NAME. Not determined. Babbini & Bressan (753: 131) included this under *Lithophyllum frondosum* (Dufour) Furnari, Cormaci & Alongi without providing a statement on its taxonomic status. See comments.

COMMENTS. Status and disposition uncertain; holotype from Algeria in TRH (Woelkerling, 678) not studied in detail in a modern context; placement under *Mesophyllum lichenoides* in this series follows format conventions (John et al., 1994: 49; Lawson et al., 1995: 99) without implying synonymy with the type of the species.

#### **expansum f. involvens (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 75 (under *Mesophyllum lichenoides*).

CURRENT PLACEMENT/NAME. Not determined. According to Babbini & Bressan (753: 138) f. *involvens* Vinassa = f. *exigua* Foslie under *Lithophyllum frondosum* (Dufour) Furnari, Cormaci & Alongi, but provided no statement on its taxonomic status; see comments.

COMMENTS. Status and disposition uncertain; type material from the Mediterranean Sea (Vinassa, 1892) not studied in detail in a modern context and whereabouts uncertain; placement under *Mesophyllum lichenoides* in this series follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

#### **expansum f. stictaeformis (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 75 (under *Mesophyllum lichenoides*).

CURRENT PLACEMENT/NAME. Not determined. According to Babbini & Bressan (753: 131) this taxon can be included under *Lithophyllum frondosum* (Dufour) Furnari, Cormaci & Alongi. They did not provide a statement on its taxonomic status. See comments.

COMMENTS. Status and disposition uncertain; type material from the Mediterranean Sea (Areschoug, 1852: 517) not studied in detail in a modern context; placement under *Mesophyllum lichenoides* in this series follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

**farinacea (Melobesia)**

SERIES REFERENCES. Price et al., 1986: 92 (under *Fosliella farinosa*); John et al., 1994: 72.

COMMENTS. Epithet *farinacea* in the binomial *Melobesia farinacea* Lamouroux an orthographic variant of *Melobesia farinosa*; see following entry.

**farinosa (Fosliella, Melobesia)**

SERIES REFERENCES. Lawson & John, 350: 234; Price et al., 1986: 91; Lawson & John, 586: 205; John et al., 1994: 72.

CURRENT PLACEMENT/NAME. *Hydrolithon farinosum* (J.V. Lamouroux) Penrose & Y.M. Chamberlain, according to Penrose & Chamberlain (1993).

NEW RECORD. Canaries (702).

COMMENTS. Conclusion of Penrose & Chamberlain (1993) based on examination of lectotype (from an unspecified locality in the Mediterranean) in CN.

**farinosa f. callithamnioides (Fosliella)**

SERIES REFERENCES. Price et al., 1986: 91 (under *Fosliella farinosa*); Lawson & John, 586: 205.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; *Fosliella farinosa* f. *callithamnioides* (Foslie) Y.M. Chamberlain based on *Melobesia farinosa* f. *callithamnioides* Foslie (see Chamberlain, 94: 352 for details); taxon apparently not lectotypified (Chamberlain, 94: 352); name in the sense of Chamberlain (94) subsequently suppressed under *Hydrolithon boreale* (Chamberlain, 702: 116–117).

**farinosa var. solmsiana (Fosliella, Melobesia)**

SERIES REFERENCE. Price et al., 1986: 91, 92 (under *Fosliella farinosa*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; whereabouts of type material uncertain; additional comments provided by John et al., (1994: 72, under *Melobesia solmsiana*), Chamberlain (94: 351, under *Fosliella farinosa* f. *callithamnioides*), Taylor (1939, under *Fosliella farinosa* var. *solmsiana*) and Babbini & Bressan (753: 200, under *Hydrolithon farinosum*).

**ferox (Leptophytum)**

SERIES REFERENCE. Not previously reported.

CURRENT PLACEMENT/NAME. Not determined; see comments.

NEW RECORD. Namibia (743).

COMMENTS. Placed in *Leptophytum* by Chamberlain & Keats (743) based on study of TRH holotype (Woelkerling, 678: 92) from South Africa; *Leptophytum* now considered a heterotypic synonym of *Phymatolithon* (Düwel & Wegeberg, 1996) but *ferox* not formally transferred to that genus; type and other collections cited by Chamberlain & Keats (743) require further study to determine generic placement.

**floridanum (Lithothamnion, Mesophyllum)**

SERIES REFERENCES. Lawson & John, 350: 241; Lawson & John, 596: 211; John et al., 1994: 67, 74.

CURRENT PLACEMENT/NAME. *Mesophyllum floridanum* (Foslie) W.H. Adey, according to Adey (1970: 24), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the TRH holotype (Woelkerling, 678: 96) from Florida, U.S.A.; holotype fragment in PC (Woelkerling, 730).

**foveatum (Leptophytum)**

SERIES REFERENCES. Not previously reported.

CURRENT PLACEMENT/NAME. Not determined; see comments.

NEW RECORD. Namibia (743).

COMMENTS. Originally described as a species of *Leptophytum* (Chamberlain & Keats, 743) based on a holotype from South Africa deposited in L; *Leptophytum* now considered a heterotypic synonym of *Phymatolithon* (Düwel & Wegeberg, 1996) but *foveatum* not formally transferred to that genus; type and other collections cited in protologue require further study to determine generic placement.

**fragile (Pneophyllum)**

SERIES REFERENCE. Lawson et al., 1995: 106.

CURRENT PLACEMENT/NAME. *Pneophyllum fragile* Kützing, according to Chamberlain (1983: 356) and Penrose & Woelkerling (1991: 495).

NEW RECORDS. Canaries (702;740).

COMMENTS. Conclusions of Chamberlain (1983) and Penrose & Woelkerling (1991) based on study of L holotype (Woelkerling & Verheij, 1995: 53) from an unspecified locality in the Mediterranean Sea; holotype fragment also in PC (Woelkerling, 730).

**fruticulosum/fruticulosus (Lithothamnion, Spongites)**

SERIES REFERENCES. John et al., 1994: 67; this paper.

CURRENT PLACEMENT/NAME. *Spongites fruticulosus* Kützing, according to Woelkerling (1985: 135) and Penrose (1991).

COMMENTS. Conclusions of Woelkerling (1985) and Penrose (1991) based on study of L holotype (Woelkerling & Verheij, 1995: 54) from an unspecified locality in the Mediterranean Sea.

**fruticulosum f. clavulata (Lithothamnion)**

See under *Spongites fruticulosus*.

**fruticulosum f. crassiuscula (Lithothamnion)**

See under *Spongites fruticulosus*.

**geometricum (Dermatolithon, Lithophyllum, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 62; this paper.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; type material from Canary Islands in C (unpublished data) not studied in detail in a modern context; species requires lectotypification (John et al., 1994: 62).

**gracile (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 62.

CURRENT PLACEMENT/NAME. *Lithophyllum gracile* Foslie, according to Adey (1970: 5), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the TRH

holotype (Woelkerling, 678: 108) from the Cape Verde Islands.

**hapalidioides (Dermatolithon, Lithophyllum, Tenarea, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 62, 64 (under *Lithophyllum pustulatum*); this paper.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Lithophyllum pustulatum* (J.V. Lamouroux) Foslie, according to Woelkerling & Campbell (1992: 79).

COMMENTS. Conclusion of Woelkerling & Campbell (1992) takes account of study of CHE lectotype from France by Chamberlain (1991: 34, under *Titanoderma pustulatum* var. *macrocarpum*); additional comments under *Titanoderma hapalidioides* in this paper.

**hapalidioides f./var. confinis (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 64 (under *Lithophyllum pustulatum*).

CURRENT PLACEMENT/NAME. Homotypic synonym of *Melobesia confinis* P. & H. Crouan and thus a heterotypic synonym of *Lithophyllum pustulatum* (J.V. Lamouroux) Foslie, according to Woelkerling & Campbell (1992: 79). Babbini & Bressan (753: 181), however, consider it to belong to variety *confinis* of *Titanoderma pustulatum*.

COMMENTS. Conclusion of Woelkerling & Campbell (1992) takes account of study of PC lectotype by Chamberlain (1991, as *Titanoderma*); lectotype (Woelkerling, 730) presumed (Chamberlain, 1991) to be from France.

**hauckii (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 62, 79 (under *Neogoniolithon mamillosum*).

CURRENT PLACEMENT/NAME. Avowed substitute name for *Lithothamnion mamillosum* Hauck, 1883 (non *L. mamillosum* Gumbel, 1871), according to Woelkerling & Verheij (1995: 57); additional data provided by John et al. (1994: 79, under *Neogoniolithon mamillosum*).

COMMENTS. See entry for *mamillosum* below.

**hirtum (Lithophyllum, Neogoniolithon)**

SERIES REFERENCE. John et al., 1994: 62, 78.

CURRENT PLACEMENT/NAME. *Neogoniolithon hirtum* (Me. Lemoine) Afonso-Carrillo, according to Afonso-Carrillo (11: 131), but see comments.

COMMENTS. Conclusion of Afonso-Carrillo (11) based on examination of type material from Canary Islands in C; lectotype, however, apparently not yet designated and placement in *Neogoniolithon* requires confirmation following lectotypification (John et al., 1994: 78).

**hispanum (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 67.

CURRENT PLACEMENT/NAME. Invalid name, according to John et al. (1994: 67).

COMMENTS. Original presentation (Gonzalez Henriquez, 235) lacks a description or diagnosis rendering name a *nomen nudum* and thus invalid in relation to ICBN Art. 32.1 (Greuter, 1994).

**illitus (Lithophyllum, Neogoniolithon)**

SERIES REFERENCE. John et al., 1994: 62, 78.

CURRENT PLACEMENT/NAME. *Neogoniolithon illitus* (Me. Lemoine) Afonso-Carrillo, according to Afonso-Carrillo (11: 133), but see comments.

COMMENTS. Conclusion of Afonso-Carrillo (11) based on examination of type material from Canary Islands in C, but lectotype apparently not yet designated and placement in *Neogoniolithon* requires confirmation following lectotypification (John et al., 1994: 78); syntype material also occurs in PC (Woelkerling, 730).

**incrusters (Lithophyllum, Lithothamnion)**

SERIES REFERENCES. John et al., 1994: 62, 65 (under *Lithophyllum vickersiae*), 67; Lawson et al., 1995: 113 (under *Pseudolithophyllum vickersiae*); this paper (under *Spongites africanum*).

CURRENT PLACEMENT/NAME. *Lithophyllum incrusters* Philippi, according to Woelkerling (1983b: 313–317).

COMMENTS. Conclusion of Woelkerling (1983b) based on study of holotype from Sicily in L (Woelkerling & Verheij, 1995: 58).

**indicum (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 67.

CURRENT PLACEMENT/NAME. *Lithothamnion indicum* Foslie, according to Wilks & Woelkerling (1995: 558).

COMMENTS. Conclusion of Wilks & Woelkerling (1995) based on study of TRH lectotype (Woelkerling, 678: 125) from Victoria, Australia.

**irregulare/irregularis (Lithophyllum, Lithothamnion, Pseudolithophyllum, Tenarea)**

SERIES REFERENCES. Lawson & John, 350: 245; Lawson & John, 586: 217; John et al., 1994: 62, 67; Lawson et al., 1995: 113; this paper.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; holotype from São Tomé in TRH (Woelkerling, 678: 130, under *Lithothamnion irregulare* Foslie) but not studied in detail in a modern context; additional comments provided by John et al. (1994: 62, under *Lithophyllum irregulare*).

**kaiserii (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 63 (as '*kaiseri*').

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; species requires typification and then type requires study in detail in a modern context (John et al., 1994: 63); syntype material present in TRH (Woelkerling, 678: 132).

**kotschyanum (Lithophyllum)**

SERIES REFERENCE. John et al., 1994: 63.

CURRENT PLACEMENT/NAME. *Lithophyllum kotschyanum* Unger, according to Verheij (1994: 100).

COMMENTS. Conclusion of Verheij (1994) based on examination of holotype from Gulf of Bahrain in TRH (Woelkerling (678: 133).

**lejolisi (Fosliella, Heteroderma, Melobesia, Pncophyllum)**

SERIES REFERENCES. Lawson & John, 350: 235; Price et al., 1986: 92; Lawson & John, 586: 214; Price et al., 1992: 130; John et al., 1994: 72; Lawson et al., 1995: 106.

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Pneophyllum fragile* Kützinger, according to Penrose & Woelkerling (1991: 496).

COMMENTS. Conclusion of Penrose & Woelkerling (1991) based on study of lectotype from France in CHE.

**lenormandii (Lithothamnion, Phymatolithon)**

SERIES REFERENCES. John et al., 1994: 67; Lawson et al., 1995: 103. Current placement/name: *Phymatolithon lenormandii* (Areschoug) W.H. Adey, according to Chamberlain & Irvine (701: 224) and Düwel & Wegeberg (1996: 476).

NEW RECORDS. Canaries (227;701).

COMMENTS. Conclusions of Chamberlain & Irvine (701) and Düwel & Wegeberg (1996) based on examination of LD lectotype (Woelkerling, 1988: 219) from France.

**lenormandii f. squamulosa (Lithothamnion)**

SERIES REFERENCE. Lawson et al., 1995: 103 (under *Phymatolithon lenormandii*).

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Phymatolithon lenormandii* (Areschoug) W.H. Adey f. *lenormandii*, according to Chamberlain & Irvine (701: 225, 230), but see comments. Babbini & Bressan (753: 295), however, consider it to belong to a separate forma, *squamulosa*.

COMMENTS. Conclusion of Chamberlain & Irvine (701) apparently not based on examination of TRH holotype from Norway (Woelkerling, 678: 206, under *Lithothamnion squamulosum*) and thus requires verification.

**lenormandii f. sublaevis (Lithothamnion)**

SERIES REFERENCE. Lawson et al., 1995: 103 (under *Phymatolithon lenormandii*).

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Phymatolithon lenormandii* (Areschoug) W.H. Adey f. *lenormandii*, according to Chamberlain & Irvine (701: 225, 230), but see comments.

COMMENTS. Conclusion of Chamberlain & Irvine (701) apparently not based on examination of TRH lectotype from England (Woelkerling, 678: 211) and thus requires verification.

**leptothalloideum (Lithophyllum, Pseudolithophyllum)**

SERIES REFERENCES. John et al., 1994: 63; Lawson et al., 1995: 113. Current placement/name: Not determined; see comments.

COMMENTS. Status and disposition uncertain; type material (whereabouts uncertain) from Annobon (Pagalú) (Pilger, 455) not studied in detail in a modern context.

**lichenoides (Lithothamnion, Mesophyllum)**

SERIES REFERENCE. John et al., 1994: 67, 74.

CURRENT PLACEMENT/NAME. *Mesophyllum lichenoides* (J. Ellis) Me. Lemoine, according to Woelkerling & Irvine (1986b).

NEW RECORD. Canaries (701).

COMMENTS. Conclusion of Woelkerling & Irvine (1986b) based on a detailed study of the BM neotype from England.

**lobatum (Lithophyllum, Mesophyllum, Pseudolithophyllum)**

SERIES REFERENCES. John et al., 1994: 63, 75; Lawson et al., 1995: 113.

CURRENT PLACEMENT/NAME. Not determined; see comments.

NEW RECORD. Canaries (744).

COMMENTS. Status and disposition uncertain; type material from Canary Islands in C (unpublished data) not studied in detail in a modern context; species requires lectotypification (John et al., 1994: 63).

**mamillare/mamillaris (Goniolithon, Lithothamnion, Melobesia, Neogoniolithon, Porolithon)**

SERIES REFERENCES. Lawson & John, 350: 241; Lawson & John, 586: 211; Price et al., 1988: 231; John et al., 1994: 67, 72, 78; Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. Not determined; see comments.

Additional record: Cape Verde Islands (625); Pantropical (625).

COMMENTS. Status and disposition uncertain; lectotype (Printz, 212: pl. 47, legend to fig. 15) apparently missing (Woelkerling, 678: 144; John et al., 1994: 78) and thus not studied in detail in a modern context.

**mamillosum (Goniolithon, Lithothamnion, Neogoniolithon)**

SERIES REFERENCES. Price et al., 1988: 231; John et al., 1994: 67, 78.

CURRENT PLACEMENT/NAME. Current placement for *Lithothamnion mamillosum* Hauck, 1883 (non Gumbel, 1871) not determined; see comments.

COMMENTS. Status and disposition uncertain; lectotype at L (Woelkerling & Verheij, 1995: 64) from the Adriatic Sea not studied in detail in a modern context; see also entry for '*hauckii*' above.

**mamillosum f. microcarpa (Goniolithon)**

SERIES REFERENCE. John et al., 1994: 78 (under *Neogoniolithon mamillosum*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH lectotype (Woelkerling, 678: 149) from the Cape Verde Islands not studied in detail in a modern context; placement under *Neogoniolithon mamillosum* (John et al., 1994: 78) follows format conventions (John et al., 1994: 49) without implying synonymy with the type of the species.

**marlothii (Lithophyllum)**

SERIES REFERENCES. John et al., 1994: 63, 74 (under *Mesophyllum canariense*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; syntype material occurs in TRH (Woelkerling, 678) and PC (Woelkerling, 730) but lectotype not designated; additional comments provided by Chamberlain (738: 154).

**mediterranea (Litholepis)**

SERIES REFERENCE. John et al., 1994: 59.

CURRENT PLACEMENT/NAME. Not determined. In Babbini & Bressan (753: 170) as *Titanoderma mediterranea* (Foslie) Woelkerling. See comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678) not examined in detail in a modern context; additional comments provided by John et al. (1994: 59) and by Woelkerling (730).

**melobesioides (Lithoporella, Mastophora)**

SERIES REFERENCE. John et al., 1994: 66, 71.

CURRENT PLACEMENT/NAME. *Lithoporella melobesioides* (Foslie) Foslie, according to Turner & Woelkerling (1982a, b).

NEW RECORDS. Cape Verde Islands (701), Sénégal (701).

COMMENTS. Conclusions of Turner & Woelkerling (1982a, b) based on detailed study of TRH lectotype (Woelkerling, 678: 148) from S. Nilandu, Maldives Islands.

**membranacea/membranaceum (Epilithon, Lithothamnion, Melobesia)**

SERIES REFERENCES. Price et al., 1986: 89; John et al., 1994: 67, 72.

CURRENT PLACEMENT/NAME. *Melobesia membranacea* (Esper) J.V. Lamouroux, according to Chamberlain (1985) and Wilks & Woelkerling (1991).

COMMENTS. Conclusions of Chamberlain (1985) and Wilks & Woelkerling (1991) based on studies of CN neotype (Chamberlain, 1985) from France; additional comments provided by John et al. (1994: 72).

**mildbraedii (Lithophyllum, Pseudolithophyllum)**

SERIES REFERENCES. Lawson & John, 350: 246; Lawson & John, 586: 217; John et al., 1994: 63; Lawson et al., 1995: 113.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; whereabouts of type material uncertain; protologue (Pilger, 455) based on a collection from Annobon (Pagalú).

**minutula (Fosliella, Melobesia)**

SERIES REFERENCES. Price et al., 1986: 92; John et al., 1994: 72; Lawson et al., 1995: 106 (under *Pneophyllum confervicola*).

CURRENT PLACEMENT/NAME. Heterotypic synonym of *Pneophyllum confervicola* (Kützing) Y.M. Chamberlain, according to Chamberlain (702: 137–141).

COMMENTS. Conclusion of Chamberlain (702) based on studies (Chamberlain, 702, 1994b) of TRH holotype (Woelkerling, 678) from Norway.

**neoatalyense (Lithophyllum)**

SERIES REFERENCES. Not previously reported.

CURRENT PLACEMENT/NAME. *Lithophyllum neoatalyense* T. Masaki, according to Chamberlain (737: 210).

NEW RECORD. Namibia (737).

COMMENTS. Conclusion of Chamberlain (737) based on study of HAK holotype from Japan.

**nephalidioides (Dermatolithon)**

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 64 (under *Lithophyllum pustulatum*).

CURRENT PLACEMENT/NAME. Orthographic variant of *Dermatolithon hapalidioides*, a heterotypic synonym of *Lithophyllum pustulatum*. Comments: See comments under entry for '*hapalidioides*' above.

**oligocarpum (Lithophyllum, Porolithon)**

SERIES REFERENCES. John et al., 1994: 63; Lawson et al., 1995: 112. Current placement/name: Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678: 163) from the Canary Islands not studied in detail in a modern context; PC holotype fragments apparently missing (Woelkerling, 730).

**onkodes (Lithothamnion, Porolithon)**

SERIES REFERENCES. Lawson & John, 350: 244; Lawson & John, 586: 216; John et al., 1994: 67; Lawson et al., 1995: 112.

CURRENT PLACEMENT/NAME. *Hydrolithon onkodes* (Heydrich) Penrose & Woelkerling, according to Penrose & Woelkerling (1992: 83).

COMMENTS. Conclusion of Penrose & Woelkerling (1992) based on study of TRH lectotype (Woelkerling, 678) from New Guinea and on earlier study of lectotype by Penrose & Woelkerling (1988); data on PC isolectotype provided by Woelkerling (730).

**onkodes var. oligocarpa (Porolithon)**

SERIES REFERENCE. Lawson et al., 1995: 112 (under *Porolithon oligocarpum*).

CURRENT PLACEMENT/NAME. Homotypic synonym of *Lithophyllum oligocarpum* Foslie.

COMMENTS. See comments under entry for *oligocarpum* above.

**orbiculare (Crodedia)**

SERIES REFERENCE. Price et al., 1986: 79.

CURRENT PLACEMENT/NAME. Epithet *orbiculare* an orthographic variant of *orbiculatum* (see below).

COMMENTS. See comments for following entry.

**orbiculatum (Lithophyllum, Lithothamnion, Pseudolithophyllum)**

SERIES REFERENCES. John et al., 1994: 63, 68; Lawson et al., 1995: 113.

CURRENT PLACEMENT/NAME. *Lithophyllum orbiculatum* (Foslie) Foslie, according to Chamberlain et al. (1991).

COMMENTS. Conclusion of Chamberlain et al. (1991) based on study of TRH lectotype (Woelkerling, 678) from Norway; the binomial *Crodedia orbiculare* (Foslie) Kylin (in Price et al., 1986: 79) pertains to *Lithophyllum orbiculatum*, but Kylin (281: 208) used the spelling *orbiculare* and not *orbiculatum*.

**orotavicum (Goniolithon, Lithophyllum, Neogoniolithon)**

SERIES REFERENCES. Price et al., 1988: 231; John et al., 1994: 63, 79.

CURRENT PLACEMENT/NAME. *Neogoniolithon orotavicum* (Foslie) Me. Lemoine, according to Adey (1970: 9) and Afonso-Carrillo (11: 133), but see comments.

COMMENTS. Conclusions of Adey (1970) and Afonso-Carrillo (11) based on examination of TRH portion of holotype (Woelkerling, 678) from the Canary Islands; placement in *Neogoniolithon* as delimited by Penrose (1992, 1996c) and by Penrose & Chamberlain (1993), however, requires confirmation; data on PC portion of holotype provided by Woelkerling (678).

**papillosum (Dermatolithon, Goniolithon, Lithophyllum, Titanoderma)**

SERIES REFERENCES. Price et al., 1986: 86; Price et al., 1988: 231; John et al., 1994: 63; this paper.



CURRENT PLACEMENT/NAME. *Lithophyllum papillosum* (Zanardini ex Hauck) Foslie, according to Huvé (272) and Babbini & Bressan (753: 307), but see comments.

COMMENTS. Conclusion of Huvé (272) based on study of L lectotype (Woelkerling & Verheij, 1995) from the Adriatic Sea; placement in *Lithophyllum* as delimited by Woelkerling & Campbell (1992) and Woelkerling (1996a), however, requires confirmation; additional comments provided by John et al. (1994: 63) and Woelkerling (1988: 216–217).

**papillosum** var. **cystoseirae** (**Dermatolithon**, **Titanoderma**)

SERIES REFERENCES. John et al., 1994: 61 (under *Lithophyllum cystoseirae*); this paper (under *Titanoderma cystoseirae*).

CURRENT PLACEMENT/NAME. Homotypic synonym of *Lithophyllum cystoseirae* (Hauck) Heydrich.

COMMENTS. See comments under entry for 'cystoseirae' above and those by Babbini & Bressan (753: 307).

**philippii** (**Lithothamnion**, **Mesophyllum**)

SERIES REFERENCE. John et al., 1994: 68, 75.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH lectotype (Woelkerling, 678: 171) from Italy not studied in detail in a modern context; additional comments provided by John et al. (1994: 68).

**phyllactidium** (**Hapalidium**)

SERIES REFERENCE. Lawson et al., 1995: 106 (under *Pneophyllum confervicolum*).

CURRENT PLACEMENT/NAME. Superfluous name for *Phyllactidium confervicola* Kützing [basonym of *Pneophyllum confervicola* (Kützing) Y.M. Chamberlain], according to Woelkerling & Verheij (1995: 69).

COMMENTS. Nomenclatural data provided by Woelkerling & Verheij (1995); also see entry under 'confervicola' above.

**polycephalum** (**Dermatolithon**, **Goniolithon**, **Lithophyllum**, **Titanoderma**)

SERIES REFERENCES. Price et al., 1986: 86; Price et al., 1988: 231; John et al., 1994: 64; this paper.

CURRENT PLACEMENT/NAME. *Lithophyllum polycephalum* Foslie, according to Woelkerling & Campbell (1992: 22–23).

COMMENTS. Conclusion of Woelkerling & Campbell (1992) based on examination of TRH holotype (Woelkerling, 678: 174) from the Cape Verde Islands; additional data on holotype provided by Chamberlain (737, as *Titanoderma*).

**polyclonum** (**Dermatolithon**, **Lithophyllum**, **Titanoderma**)

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 64; this paper.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678: 175) fragmentary and not studied in detail in a modern context.

**polymorphum** (**Lithothamnion**, **Phymatolithon**)

SERIES REFERENCES. John et al., 1994: 68; Lawson et al., 1995: 103. Current placement/name: Superfluous name; see comments.

COMMENTS. *Phymatolithon polymorphum* (L.) Foslie, based on

*Millepora polymorpha* L., is a superfluous name for *Phymatolithon calcareum* (Pallas) W.H. Adey & D.L. McKibbin; details provided by Woelkerling & Irvine (1986a); epithet *polymorphum* widely misapplied (Woelkerling & Irvine, 1986a) to plants referable to *Phymatolithon purpureum* (P. & H. Crouan) Woelkerling & L. Irvine (see entry for *purpureum* below).

**polymorphum** f. **sublaevis** (**Phymatolithon**)

SERIES REFERENCE. Lawson et al., 1995: 103.

CURRENT PLACEMENT/NAME. Superfluous name for *Phymatolithon polymorphum* f. *papillata* Foslie, according to Woelkerling (678: 211); also see comments.

COMMENTS. Status and disposition of *Phymatolithon polymorphum* f. *papillata* Foslie uncertain; TRH lectotype (Woelkerling, 678: 168) from Helgoland, Germany not studied in detail in a modern context.

**ponderosum** (**Lithophyllum**, **Lithothamnion**)

SERIES REFERENCES. John et al., 1994: 62 (under *Lithophyllum incrustans*), 64, 68; this paper (under *Spongites africanum*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH holotype (Woelkerling, 678: 168) from São Tomé not studied in detail in a modern context; additional comments provided by John et al. (1994: 68).

**proboscideum** (**Lithophyllum**)

SERIES REFERENCES. John et al., 1994: 64; this paper (under *Spongites africanum*).

CURRENT PLACEMENT/NAME. *Lithophyllum proboscideum* Foslie, according to Adey (1970: 5), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a modern, detailed study of the lectotype from California, U.S.A. in TRH (Woelkerling, 678: 176); comments on West African record provided in this paper under entry for *Spongites africanum*.

**purpureum** (**Phymatolithon**)

SERIES REFERENCE. Lawson et al., 1995: 103.

CURRENT PLACEMENT/NAME. *Phymatolithon purpureum* (P. & H. Crouan) Woelkerling & L. Irvine, according to Woelkerling & Irvine (1986a).

COMMENTS. Conclusion of Woelkerling & Irvine (1986a) based on study of CO lectotype from France.

**pustulata/pustulatum** (**Dermatolithon**, **Lithophyllum**, **Melobesia**, **Titanoderma**)

SERIES REFERENCES. Price et al., 1986: 86; John et al., 1994: 64, 72; this paper.

CURRENT PLACEMENT/NAME. *Lithophyllum pustulatum* (J.V. Lamouroux) Foslie, according to Woelkerling & Campbell (1992: 78).

COMMENTS. Conclusion of Woelkerling & Campbell (1992) based on study of CN lectotype from France and from earlier study of lectotype by Woelkerling et al. (1985).

**pustulatum** f. **australis** (**Lithophyllum**)

SERIES REFERENCE. John et al., 1994: 64 (under *Lithophyllum pustulatum*).

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; TRH lectotype (Woelkerling, 678: 35) from Canary Islands not studied in detail in a modern context.

**racemus (Lithophyllum, Lithothamnion)**

SERIES REFERENCES. John et al., 1994: 64, 67, 74 (under *Mesophyllum brachycladum*).

CURRENT PLACEMENT/NAME. *Lithophyllum racemus* (Lamarck) Foslíe, according to Basso et al. (1996).

COMMENTS. Conclusion of Basso et al. (1996) based on the selection and study of a neotype (from Capri, Italy) housed at the Dipartimento di Scienze della Terra, Istituto di Geologia e Paleontologia, Università di Milano, in Milano, Italy; heterotypic synonyms (according to Basso et al., 1996) include *Lithothamnion crassum* Philippi, *Lithothamnion calcareum* f. *crassa* (Philippi) Me. Lemoine, and *Lithophyllum duckeri* Woelkerling; all West African records under these names require checking to confirm identification as misapplication of epithets likely in some or all cases; further information on the Lamarck species provided by Woelkerling (729) under the basionym (*Millepora racemus*).

**retusum (Lithophyllum)**

SERIES REFERENCES. Lawson & John, 350: 237; Lawson & John, 586: 207; John et al., 1994: 65.

CURRENT PLACEMENT/NAME. *Lithophyllum retusum* (Foslíe) Foslíe, according to Adey (1970: 5), but see comments.

COMMENTS. Status and disposition uncertain, conclusion of Adey (1970) requires verification via a detailed modern study of holotype from São Tomé in TRH (Woelkerling, 678: 189); information on PC isotype provided by Woelkerling (730).

**samoense (Hydrolithon)**

SERIES REFERENCES. Not previously reported.

CURRENT PLACEMENT/NAME. *Hydrolithon samoense* (Foslíe) Keats & Y.M. Chamberlain, according to Keats & Chamberlain (754: 15).

NEW RECORDS. Canaries (702;751).

COMMENTS. Conclusion of Keats & Chamberlain (754) based on study of TRH lectotype (Woelkerling, 678: 193) from Samoa.

**sauvageauii (Litholepis, Lithoporella, Melobesia)**

SERIES REFERENCES. John et al., 1994: 59, 66, 72.

CURRENT PLACEMENT/NAME. *Lithoporella sauvageauii* (Foslíe) W.H. Adey, according to Adey (1970: 15), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a detailed modern study of holotype from the Canaries in TRH (Woelkerling, 678: 195).

**simile (Lithophyllum)**

SERIES REFERENCES. Lawson & John, 350: 237; Lawson & John, 586: 208; John et al., 1994: 65.

CURRENT PLACEMENT/NAME. *Lithophyllum simile* Foslíe, according to Adey (1970: 6), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a detailed modern study of holotype from São Tomé in TRH (Woelkerling, 678: 201).

**solmsiana (Melobesia)**

SERIES REFERENCES. Lawson & John, 350: 234; John et al., 1994: 72. Current placement/name: Not determined; see comments.

COMMENTS. Status and disposition uncertain; whereabouts of type material uncertain; additional comments provided by John et al. (1994: 72, under *Melobesia solmsiana*), Chamberlain (94: 351, under *Foslíella farinosa* f. *callithamnioides*) and Taylor (1939, under *Foslíella farinosa* var. *solmsiana*).

**solmsii (Melobesia)**

SERIES REFERENCES. Price et al., 1986: 92 (under *Foslíella farinosa*); John et al., 1994: 72.

CURRENT PLACEMENT/NAME. Invalid name, according to Woelkerling (678).

COMMENTS. Original presentation lacks a description or diagnosis rendering name invalid (Woelkerling, 730); name possibly a variant of *Melobesia solmsiana*, but contrary to John et al. (1994: 72, under *Melobesia solmsii*), cannot be considered a homotypic synonym.

**solutum (Lithophyllum, Lithothamnion, Mesophyllum)**

SERIES REFERENCE. John et al., 1994: 65, 68, 75.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; lectotype from Adriatic Sea in TRH (Woelkerling, 678: 203, under *Lithothamnion fruticosum* f. *soluta*) not studied in detail in a modern context; additional comments provided by John et al. (1994: 68).

**sonderi (Lithothamnion)**

SERIES REFERENCE. John et al., 1994: 68.

CURRENT PLACEMENT/NAME. *Lithothamnion sonderi* Hauck, according to Chamberlain (750: 191).

NEW RECORD. Canaries (750).

COMMENTS. Conclusion of Chamberlain (750) based on detailed study of lectotype in L (Woelkerling & Verheij, 1995: 77) from Helgoland, Germany.

**stictaeformis (Melobesia)**

SERIES REFERENCE. John et al., 1994: 73.

CURRENT PLACEMENT/NAME. Not determined; see comments.

COMMENTS. Status and disposition uncertain; protologue (Areschoug, 1852: 517) based on mediterranean material not studied in detail in a modern context; possible syntype material in TRH (Woelkerling, 678: 207); additional material presumed but not confirmed to be in LD (John et al., 1994: 73). See also discussion in Babbini & Bressan (753: 130, under *Lithophyllum frondosum*).

**subtenellum (Goniolithon, Lithophyllum, Lithothamnion)**

SERIES REFERENCES. Lawson & John, 350: 238; Lawson & John, 586: 208; Price et al., 1988: 231; John et al., 1994: 65, 68.

CURRENT PLACEMENT/NAME. *Lithophyllum subtenellum* (Foslíe) Foslíe, according to Adey (1970: 6), but see comments and also Babbini & Bressan (753: 268, under *Lithothamnion orbiculatum*).

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a detailed modern study of lectotype from France in TRH (Woelkerling, 678: 215).

**tenuissimum (Lithothamnion, Phymatolithon)**

SERIES REFERENCES. Lawson & John, 350: 242; Lawson & John, 586: 212; John et al., 1994: 68; Lawson et al., 1995: 103.

CURRENT PLACEMENT/NAME. *Phymatolithon tenuissimum* (Foslie) W.H. Adey, according to Adey (1970: 29), but see comments.

COMMENTS. Status and disposition uncertain; conclusion of Adey (1970) requires verification via a detailed modern study of holotype from São Tomé in TRH (Woelkerling, 678: 222); additional comments provided by Lawson et al. (352: 103) and Babbini & Bressan (753: 268, under *Lithothamnion tenuissimum*).

#### **thuretii (Choreonema)**

SERIES REFERENCE. Price et al., 1986: 69.

CURRENT PLACEMENT/NAME. *Choreonema thuretii* (Bornet) F. Schmitz, according to Woelkerling (1987).

COMMENTS. Conclusion of Woelkerling (1987) based on study of PC lectotype (Woelkerling, 730, under the basionym, *Melobesia thuretii* Bornet) from France.

#### **tortuosa/tortuosum (Lithophyllum, Tenarea)**

SERIES REFERENCES. Lawson & John, 350: 238; Lawson & John, 586: 210; John et al., 1994: 65; this paper.

CURRENT PLACEMENT/NAME. *Tenarea tortuosa* (Esper) Me. Lemoine, according to Woelkerling et al. (1985).

COMMENTS. Conclusion of Woelkerling et al. (1985) based on a detailed study of the FR lectotype from an unspecified locality in the Mediterranean Sea; additional comments provided under entry for *Tenarea tortuosa* in main part of this paper. Babbini & Bressan (753:

116, 192) cite *Tenarea tortuosa* (Esper) Me. Lemoine as an accepted species and as a synonym under *Lithophyllum lichenooides*.

#### **vickersiae (Lithophyllum, Lithothamnion, Pseudolithophyllum)**

SERIES REFERENCES. John et al., 1994: 65, 68; Lawson et al., 1995: 113.

CURRENT PLACEMENT/NAME. *Lithophyllum vickersiae* Me. Lemoine, but see comments.

COMMENTS. Status and disposition uncertain; placement here in *Lithophyllum* based on data on type material provided by Afonso-Carrillo (11: 139, as *Pseudolithophyllum*); protologue (Lemoine, 362: 42) based on seven collections from Canary Islands (all presumably in C) but lectotype not yet designated or studied in detail in a modern context; additional comments provided by John et al. (1994: 65).

#### **wildpretii (Spongites)**

See under *Spongites wildpretii*.

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